CMT-EP515

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

Ver 1.1 2003. 07

- CMT-EP515 is composed of following model.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME

COMPACT DISC DECK RECEIVER SYSTEM	HCD-EP515
SPEAKER SYSTEM	SS-CEP515

PARTS LIST

Part No.	Description	Remarks
	ACCESSORIES	
	**********	
1-754-243-11	ANTENNA (FM)	
1-754-102-22	ANTENNA, LOOP (AM)	
3-027-153-11	LID, BATTERY CASE (FOR RM-SGP5)	
4-246-169-11	MANUAL, INSTRUCTION (ENGLISH)(US,CND,AEP,UK)	
4-246-169-21	MANUAL, INSTRUCTION (FRENCH)(CND)	
4-246-169-31	MANUAL, INSTRUCTION (FRENCH,SPANISH)(AEP)	
4-246-169-41	MANUAL, INSTRUCTION (GERMAN,DUTCH,ITALIAN, SWEDISH,POLISH)(AEP)	
4-246-169-51	MANUAL, INSTRUCTION (KOREAN)(KR)	
A-4433-976-A	COMMANDER, STANDARD (RM-SGP5)	

- Abbreviation
  CND : Canadian model
  KR : Korean model

MICRO HI-FI COMPONENT SYSTEM

9-877-155-02
2003G16-1
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Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

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REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2003.03	New
1.1	2003.07	Addition of Korean model.

HCD-EP515

SERVICE MANUAL

Ver 1.2 2003. 07

US Model
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HCD-EP515 is the Amplifier, CD player, Tape Deck and Tuner section in CMT-EP515.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	KSM-213EDP
	Base Unit Name	BU-K7BD44B
	Optical Pick-up Name	KSS-213E/C2N
TAPE Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	CMAL1Z240A

SPECIFICATIONS

Amplifier section

AUDIO POWER SPECIFICATIONS:
(U.S.A. model only)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 6-ohm loads, both channels driven, from 120 - 10,000 Hz; rated 14 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.

North American model:
Continuous RMS power output (reference):
15 + 15 W
(6 ohms at 1 kHz, 10% THD)

European model:
DIN power output (rated): 11 + 11 W
(6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference):
15 + 15 W
(6 ohms at 1 kHz, 10% THD)
Music power output (reference):
25 + 25 W

Other models:
The following measured at AC 230 V or AC 120 V, 50/60 Hz
DIN power output (rated): 11 + 11 W
(6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference):
15 + 15 W
(6 ohms at 1 kHz, 10% THD)

Inputs
MD IN (phono jacks):
Sensitivity 800 mV, impedance 47 kilohms

Outputs
PHONES (stereo minijack):
Accepts headphones with an impedance of 8 ohms or more
SPEAKER:
Accepts impedance of 6 to 16 ohms.

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780 nm) Emission duration: continuous
Frequency response	2 Hz – 20 kHz (±0.5 dB)

Tape deck section

Recording system	4-track 2-channel stereo
Frequency response	50 – 13,000 Hz (±3 dB), using Sony TYPE I cassettes

— Continued on next page —

MICRO HI-FI COMPONENT SYSTEM

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Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz (50-kHz step)
Antenna	FM lead antenna
Antenna terminals	75 ohms balanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
Pan-American model:	530 – 1,710 kHz (with the tuning interval set at 10 kHz) 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
European model:	531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Other models:	530 – 1,710 kHz (with the tuning interval set at 10 kHz) 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Antenna	AM loop antenna, external antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
North American model:	120 V AC, 60 Hz
European model:	230 V AC, 50/60 Hz
Other models:	230 V AC, 50/60 Hz
Power consumption	
North American model:	50 watts
European model:	50 watts 0.3 watts (in the standby mode)
Other models:	50 watts
Dimensions (w/h/d)	Approx. 163 × 233 × 237 mm
Mass	Approx. 3.6 kg
Supplied accessories	Remote (1) R6 (size AA) batteries (2) AM loop antenna (1) FM lead antenna (1)

Design and specifications are subject to change without notice.

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SECTION 1
SERVICING NOTES

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

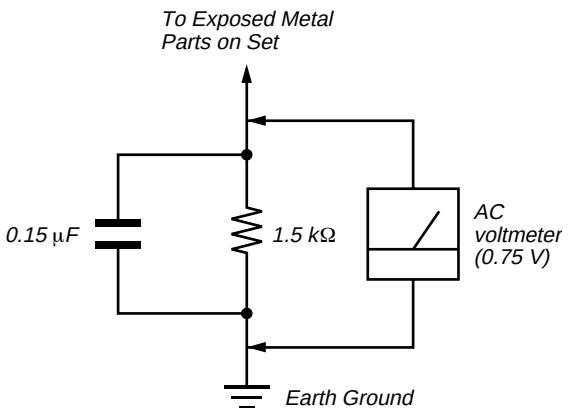


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the exterior.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveforms is output three times.

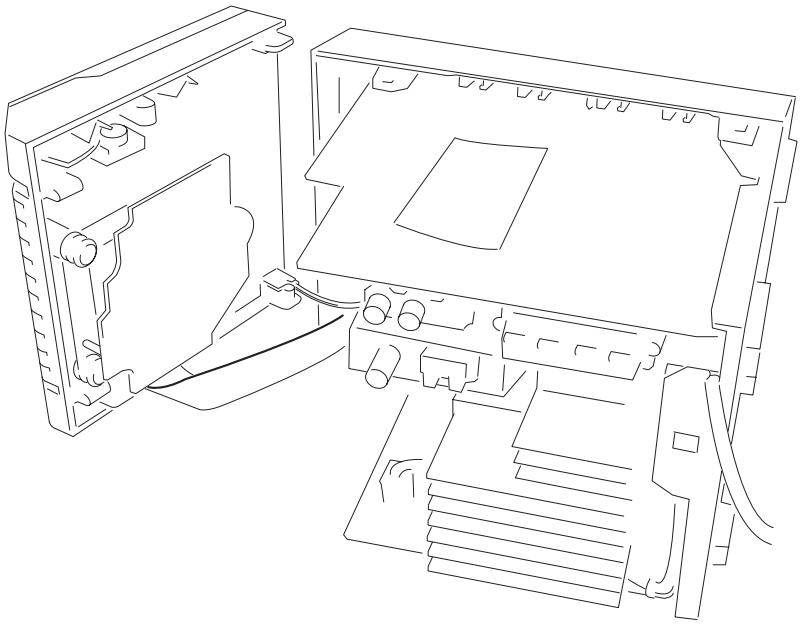
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

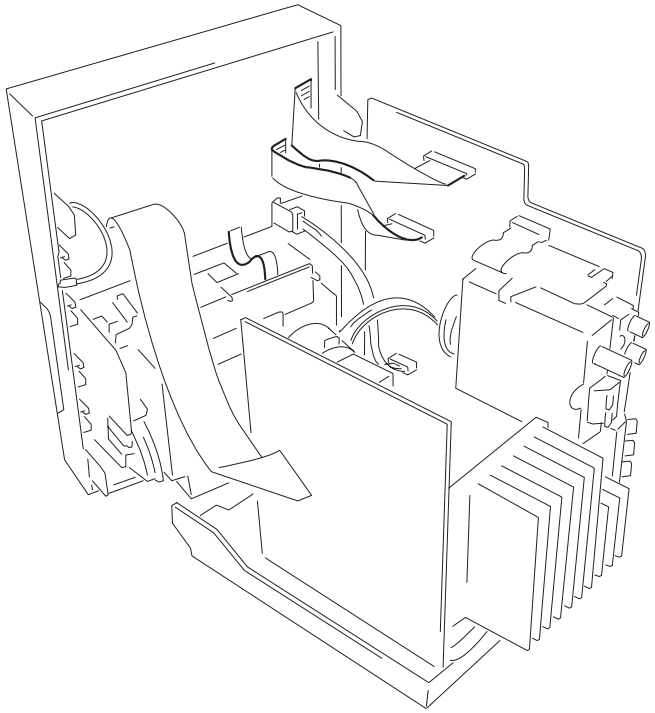
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

Service Position of the CD Mechanism Deck



Service Position of the Tape Cassette Mechanism Deck



SECTION 2
GENERAL

This section is extracted from instruction manual.

List of button locations and reference pages

How to use this page

Use this page to find the location of buttons and other parts of the system that are mentioned in the text.

Illustration number
↓
DISPLAY 22 (9, 10, 16)
↑ Name of button/part ↑ Reference page

Main unit

ALPHABETICAL ORDER

A – M

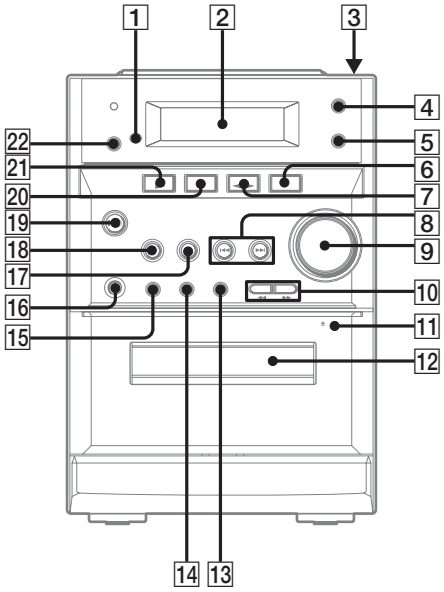
BASS/TREBLE 5 (13)
Cassette compartment 12
CD SYNC 13 (12)
DIRECTION 15 (11, 12, 15)
DISPLAY 22 (9, 10, 16)
Display window 2
DSG 4 (13)
MD 6 (17)

P – Z

PHONES jack 16
PLAY MODE 15 (6, 7)
PRESET +/– 8 (9)
Remote sensor 1
TUNER BAND 20 (8, 9)
TUNING +/– 10 (8, 9)
VOLUME 9 (14, 15)

BUTTON DESCRIPTIONS

I/⏻ (power) 19 (5, 9, 14, 15)
◀◀/▶▶ (fast forward/rewind) 10 (6, 11)
I◀◀/▶▶I (go back/go forward) 8 (5, 6, 7, 12, 13, 14, 15)
■ (stop) 17 (6, 7, 11, 12, 19)
❚❚ (pause) 18 (6, 11)
●REC PAUSE/START 14 (12, 15)
CD ▶ (play) 21 (6, 7)
TAPE ◀❚▶ (play) 7 (11, 12, 15)
⏏ PUSH OPEN/CLOSE (CD open/close) 3 (6)
⏏ PUSH OPEN/CLOSE (tape open/close) 11 (11)



Remote control

ALPHABETICAL ORDER

A – M

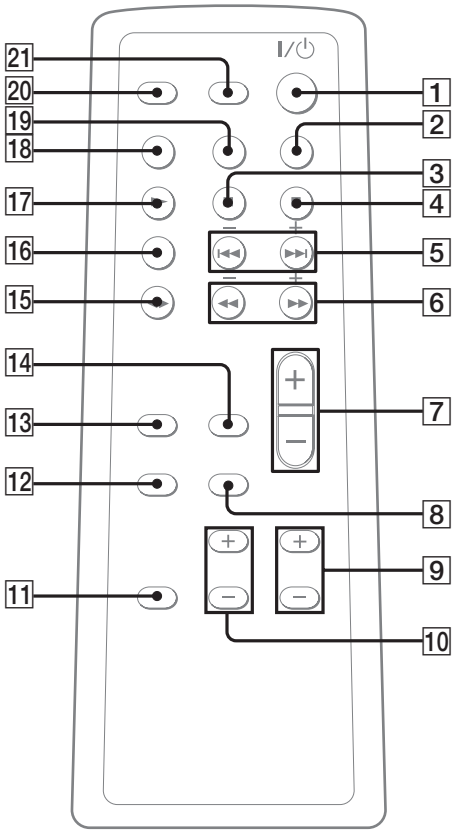
BASS +/– 10 (13)
CLEAR 8 (8, 9)
CLOCK/TIMER SELECT 20 (14, 15)
CLOCK/TIMER SET 21 (5, 14, 15)
DISPLAY 2 (9, 10, 16)
DSG 11 (13)
MD 18 (17)

P – Z

PLAY MODE/DIRECTION 13 (6, 7, 11, 12, 15)
PRESET +/– 5 (9)
REPEAT/FM MODE 14 (7, 9)
SLEEP 19 (13)
TREBLE +/– 9 (13)
TUNER BAND 16 (8, 9)
TUNER MEMORY 12 (8)
TUNING +/– 6 (8, 9)
VOL +/– 7 (14, 15)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (5, 9, 14, 15)
◀◀/▶▶ (fast forward/rewind) 6 (6, 11)
I◀◀/▶▶I (go back/go forward) 5 (5, 6, 7, 12, 14, 15)
■ (stop) 4 (6, 7, 11, 12, 19)
❚❚ (pause) 3 (6, 11)
CD ► (play) 17 (6, 7)
TAPE ◄► (play) 15 (11, 12, 15)



Setting the clock

1 Press I/⏻ to turn on the system.

2 Press CLOCK/TIMER SET.

3 Press I◀◀ /▶▶I repeatedly to set the hour.

4 Press CLOCK/TIMER SET.

5 Press I◀◀ /▶▶I repeatedly to set the minute.

6 Press CLOCK/TIMER SET.

The clock starts working.

To adjust the clock

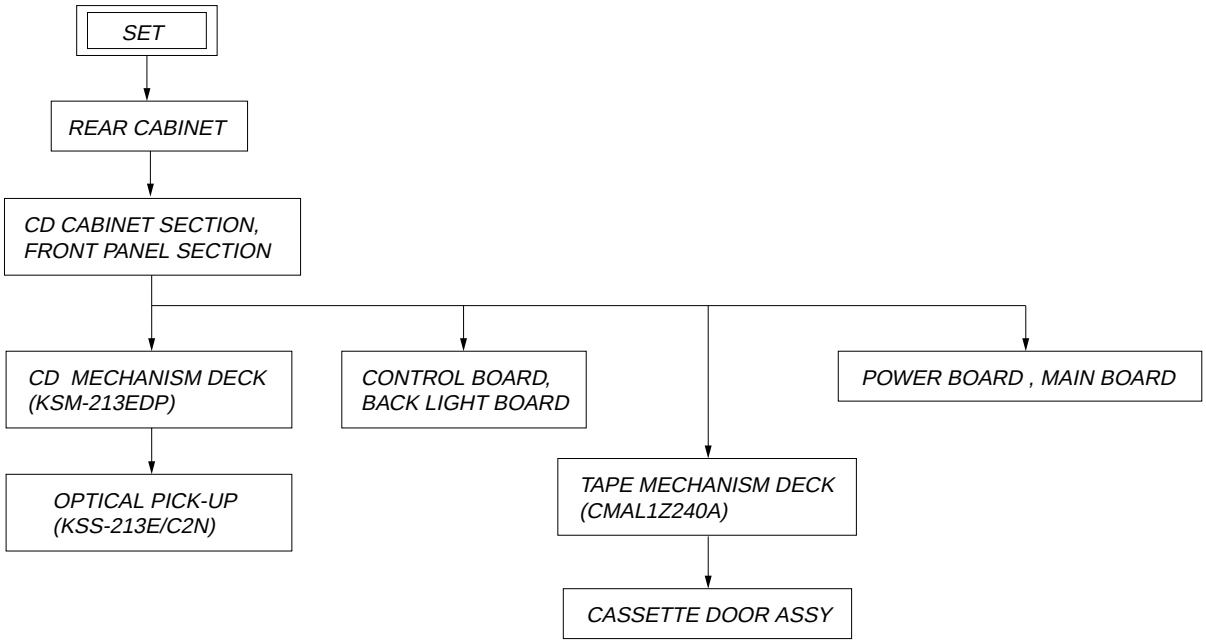
1 Press CLOCK/TIMER SET.

2 Press I◀◀ /▶▶I to select “CLOCK”, then press CLOCK/TIMER SET.

3 Do the same procedures as step 3 to 6 above.

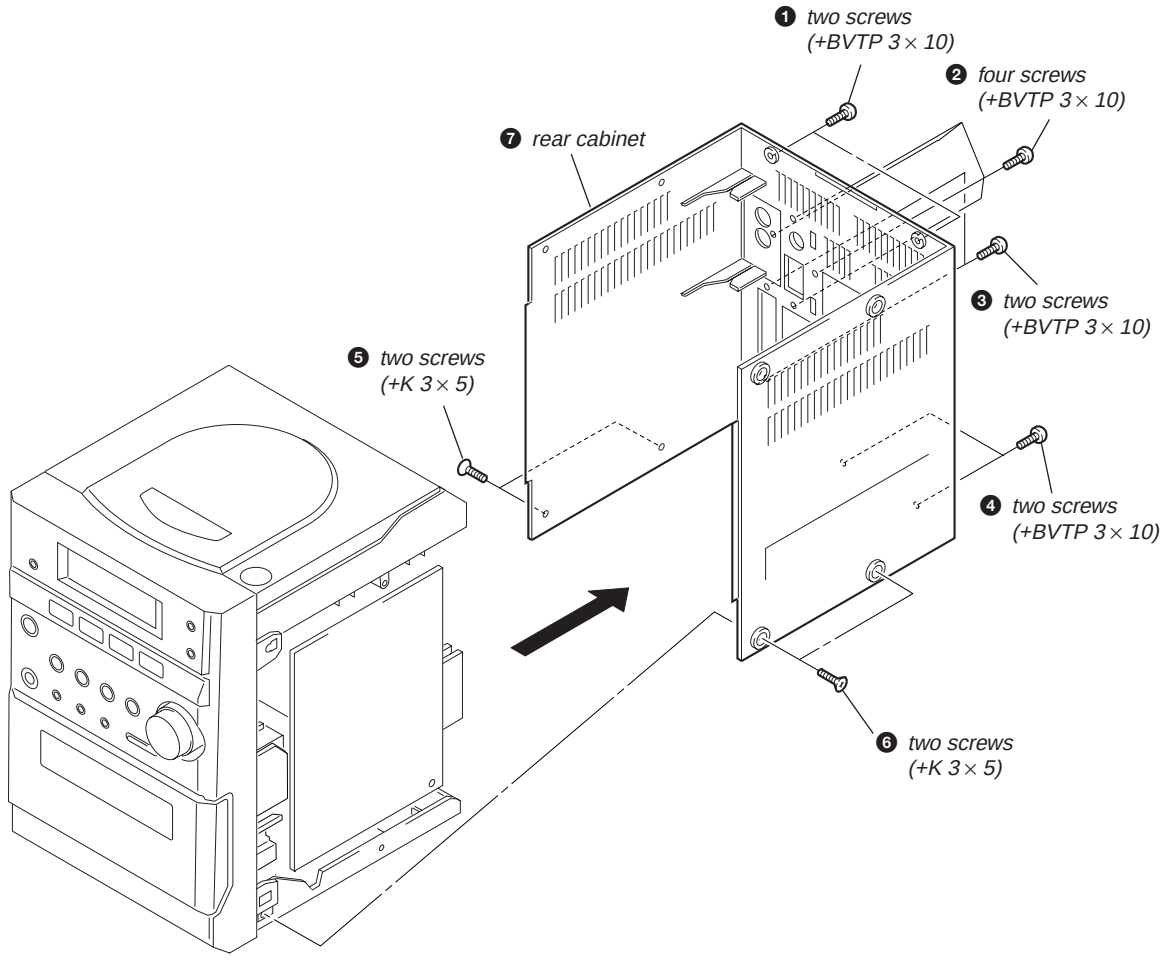
SECTION 3
DISASSEMBLY

• This set can be disassembled in the order shown below.

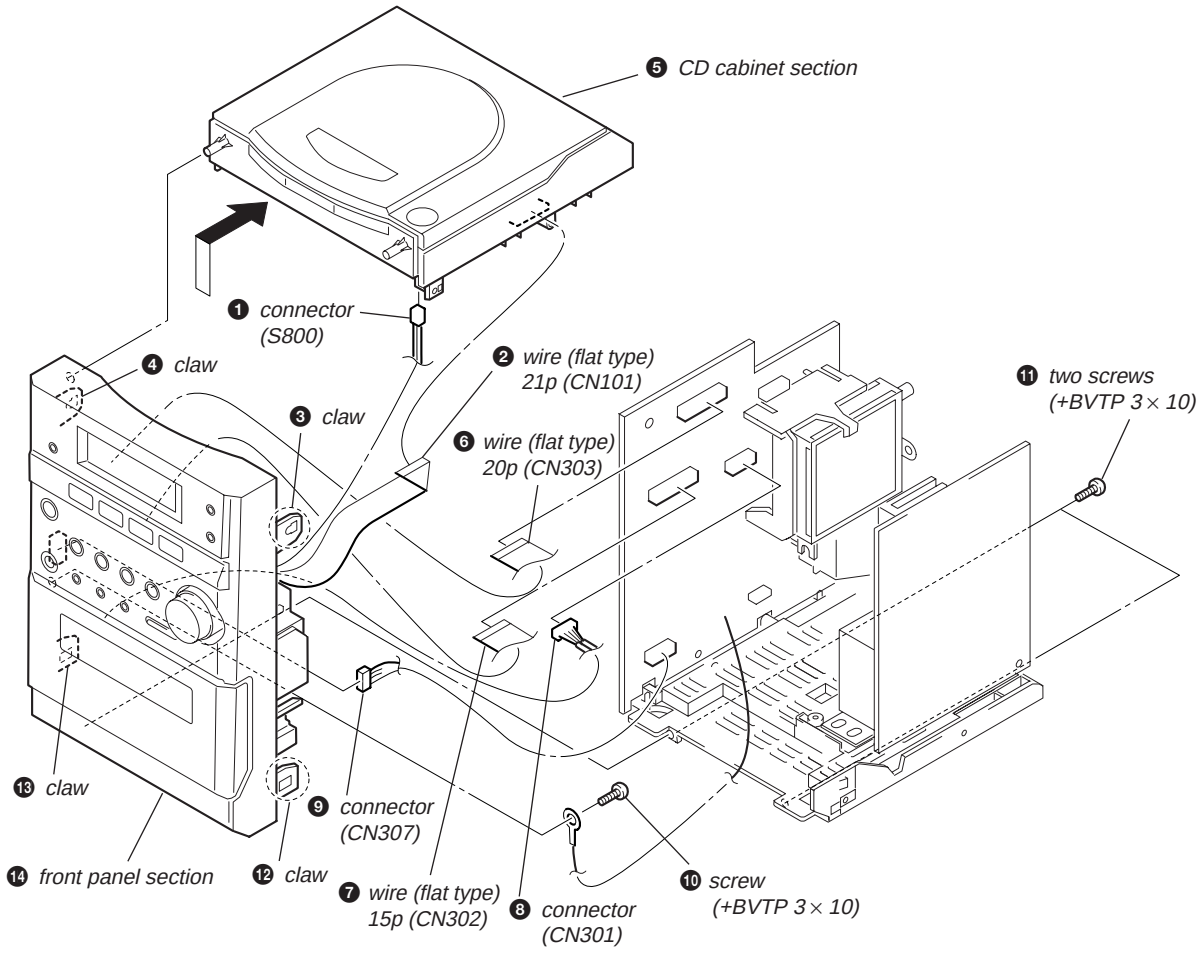


Note: Follow the disassembly procedure in the numerical order given.

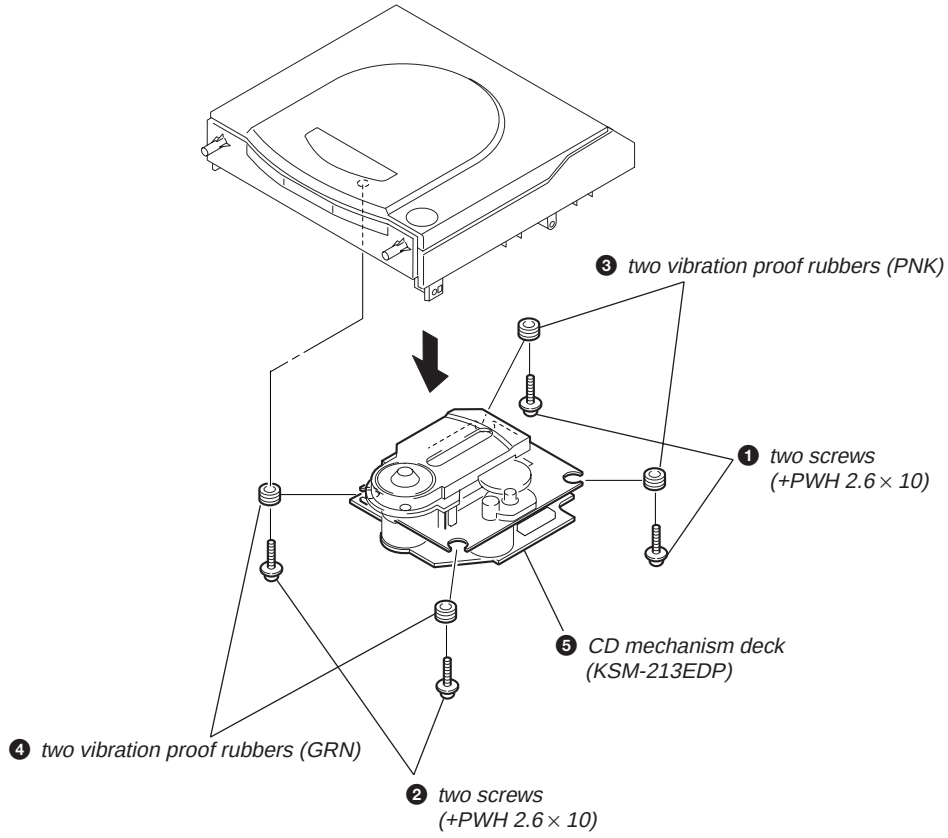
3-1. Rear Cabinet



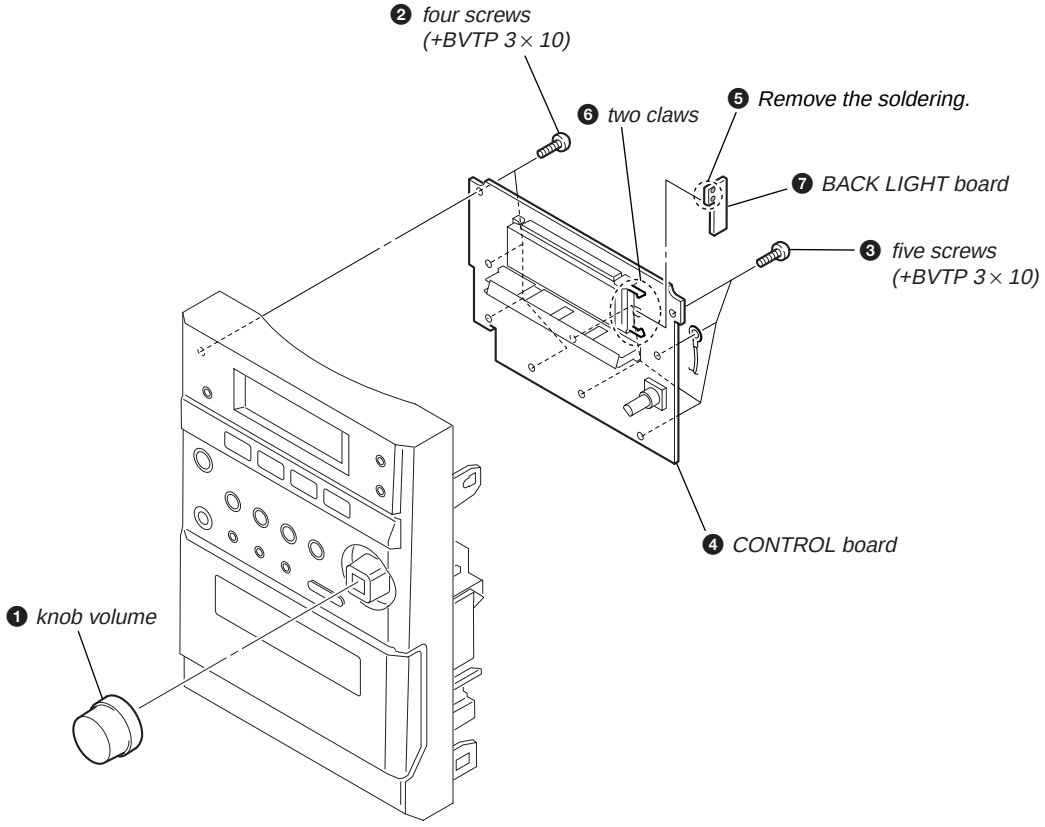
3-2. CD Cabinet Section, Front Panel Section



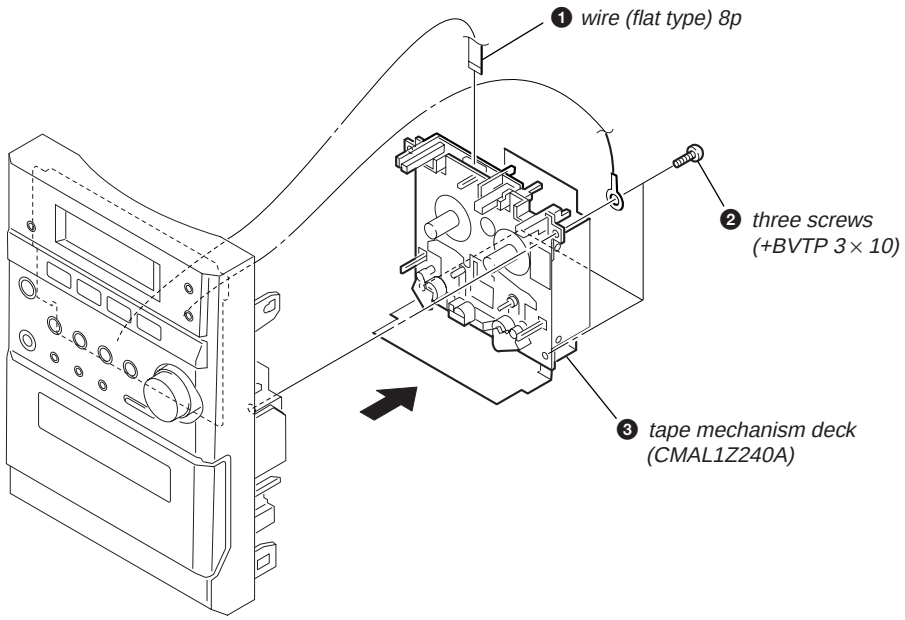
3-3. CD Mechanism Deck (KSM-213EDP)


❸ two vibration proof rubbers (PNK)
❶ two screws (+PWH 2.6× 10)
❺ CD mechanism deck (KSM-213EDP)
❹ two vibration proof rubbers (GRN)
❷ two screws (+PWH 2.6× 10)

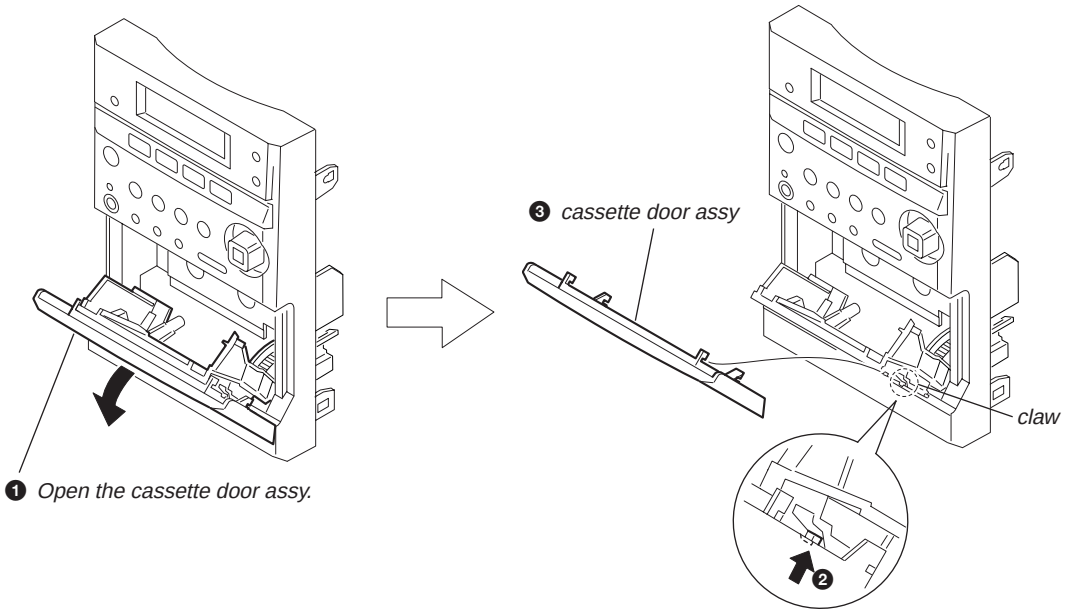
3-4. CONTROL Board, BACK LIGHT Board



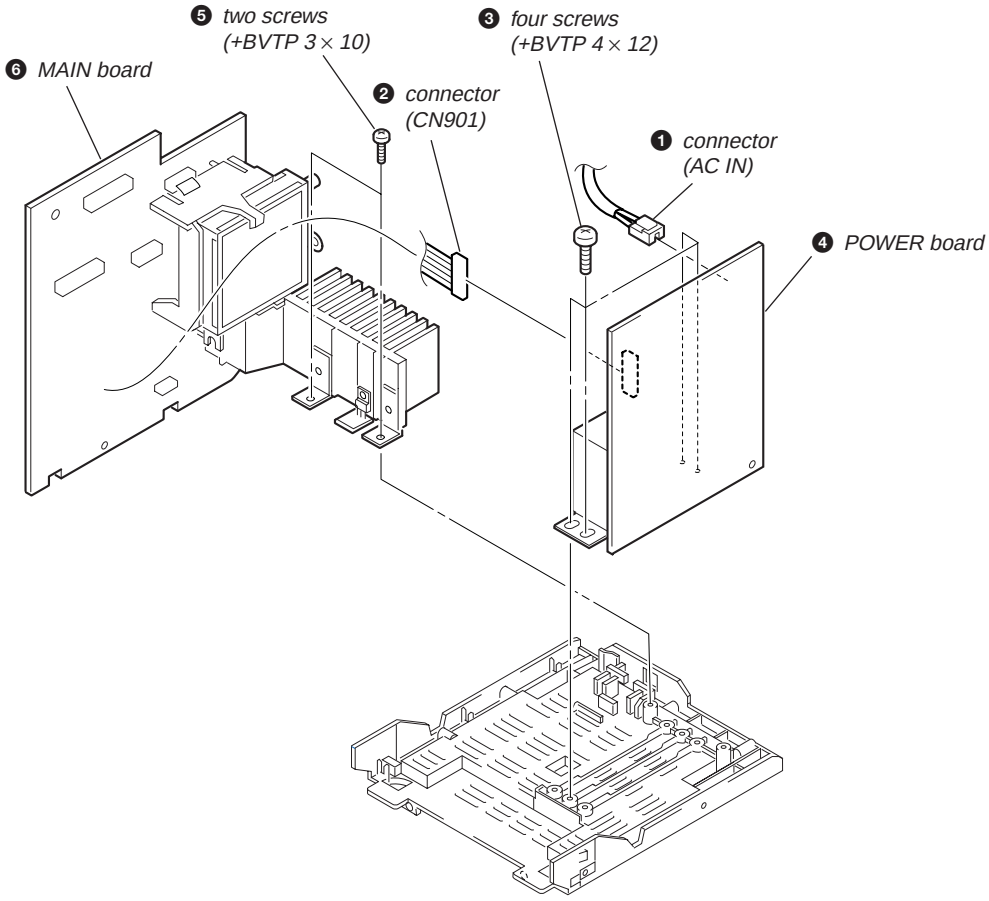
3-5. Tape Mechanism Deck (CMAL1Z240A)



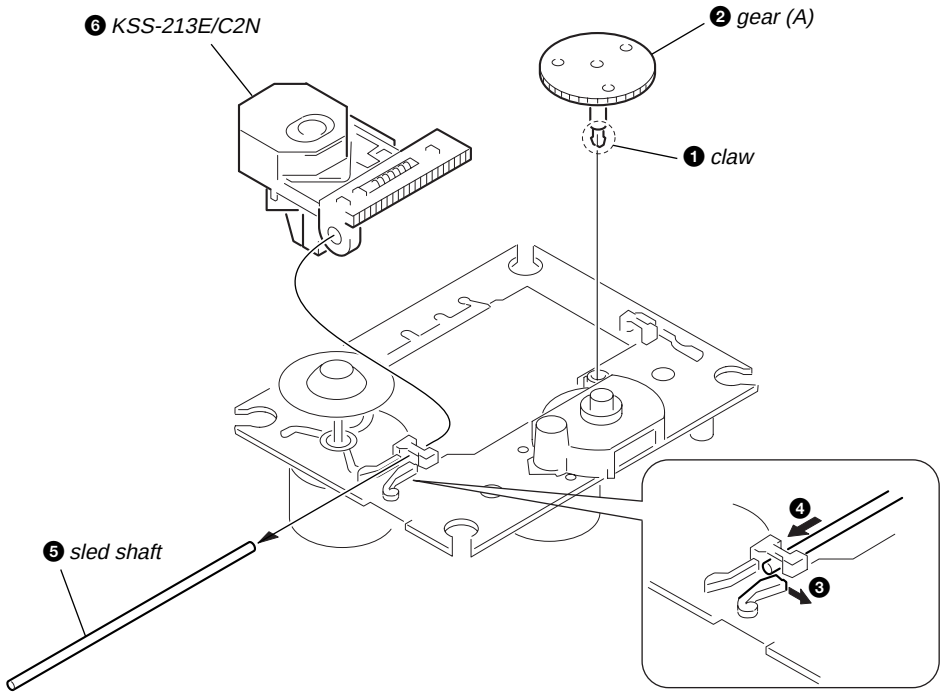
3-6. Cassette Door Assy



3-7. POWER Board, MAIN Board



3-8. Optical Pick-up (KSS-213E/C2N)



SECTION 4
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads, erase head, capstan, pinch rollers, rubber belts, idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	3.04 – 6.96 mN • m (31 to 71 g • cm) (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	0.20 – 0.58 mN • m (2 to 6 g • cm) (0.02 – 0.08 oz • inch)
REV	CQ-102RC	3.04 – 6.96 mN • m (31 to 71 g • cm) (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	0.20 – 0.58 mN • m (2 to 6 g • cm) (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	6.97 – 14.02 mN • m (71 to 143 g • cm) (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	9.8 mN • m or more (100 g • cm or more) (1.4 oz • inch or more)
REV tension	CQ-403R	9.8 mN • m or more (100 g • cm or more) (1.4 oz • inch or more)

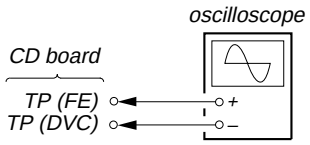
SECTION 5
ELECTRICAL ADJUSTMENTS

CD SECTION

Note:
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

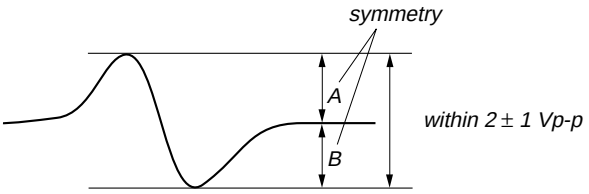
S-curve Check

Connection:



Procedure:
1. Connect an oscilloscope to test point TP (FE) and TP (DVC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in and turned power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out)
4. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2 ± 1 Vp-p.

S-curve waveform

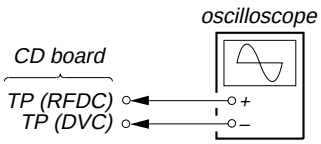


Note:
- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

Checking Location: CD board (Conductor side)

RFDC Level Check

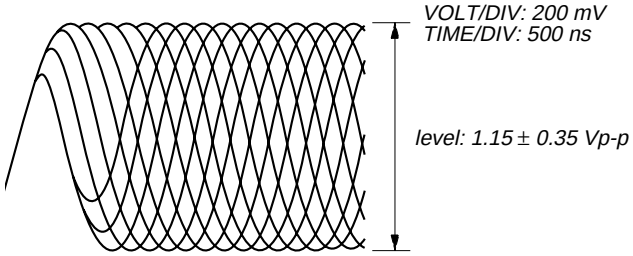
Connection:



Procedure:
1. Connect an oscilloscope to test point TP (RFDC) and TP (DVC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in to playback the number five track.
4. Confirm that oscilloscope waveform is clear and check RFDC signal level is correct or not.

Note: A clear RFDC signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

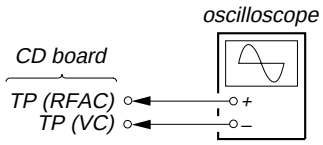
RFDC signal waveform



Checking Location: CD board (Conductor side)

RFAC Level Check

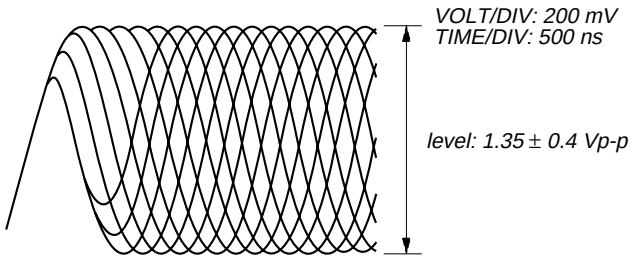
Connection:



Procedure:
1. Connect an oscilloscope to test point TP (RFAC) and TP (VC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in to playback the number five track.
4. Confirm that oscilloscope waveform is clear and check RFAC signal level is correct or not.

Note: A clear RFAC signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

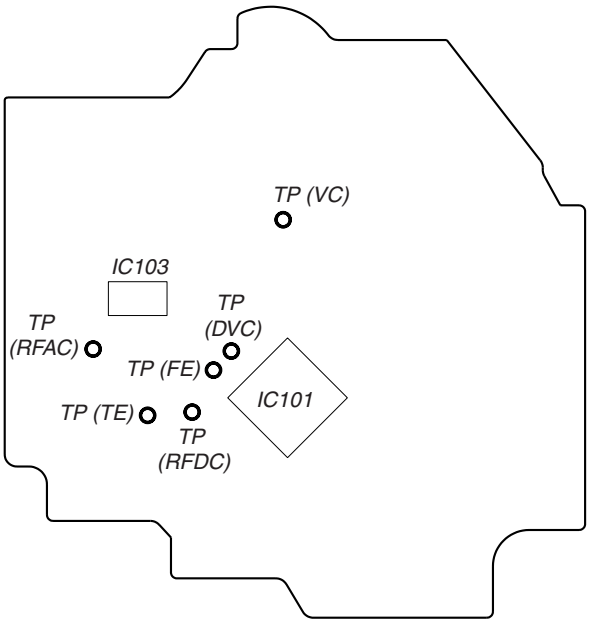
RFAC signal waveform



Checking Location: CD board (Conductor side) (See page 14)

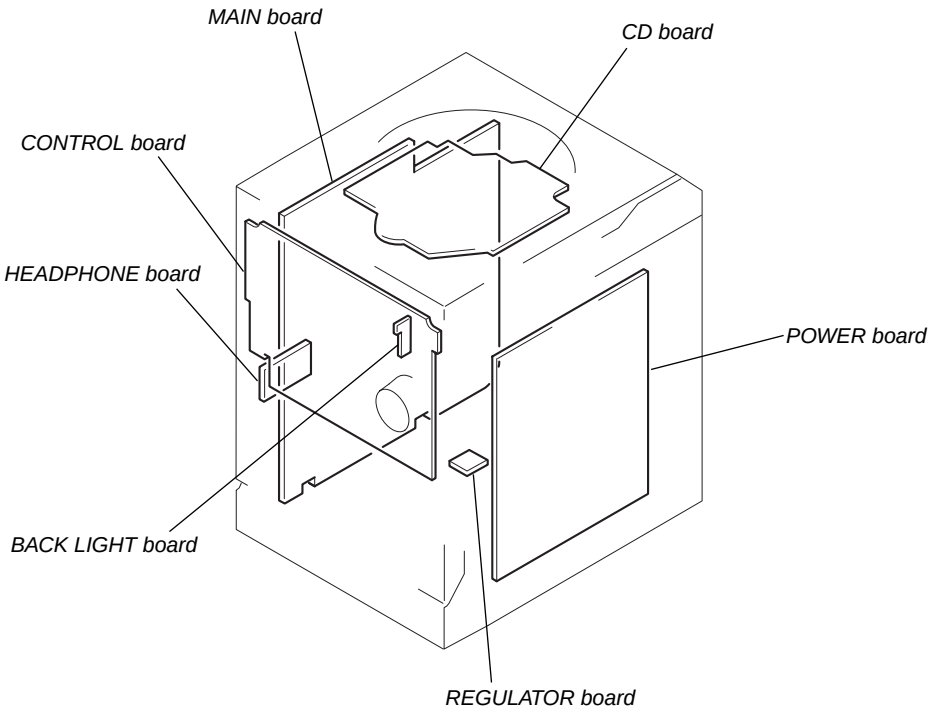
Checking Location:

– CD BOARD (Conductor Side) –



SECTION 6
DIAGRAMS

- **Circuit Boards Location**



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line.
- : B– Line.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation
  CND : Canadian model
- Signal path.
  : TUNER
  : CD
  : AUX
  : PB (TAPE)
  : REC (TAPE)

For printed wiring boards.

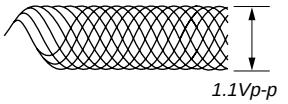
Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- : Pattern from the side which enables seeing.

• **Waveforms**

– CD Board –

① IC103 ⑮ (RFAC)
(CD Play Mode)



200mV/DIV, 1 µs/DIV

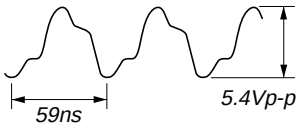
② IC101 ㊴ (FE)
(CD Play Mode)

50mV/DIV, 200 µs/DIV

③ IC101 ㊶ (TE)
(CD Play Mode)

100mV/DIV, 200 µs/DIV

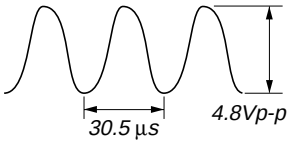
④ IC101 ㊼ (XTAO)



1V/DIV, 20ns/DIV

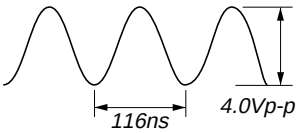
– CONTROL Board –

⑤ IC801 ⑬ (XT2)



1V/DIV, 10 µs/DIV

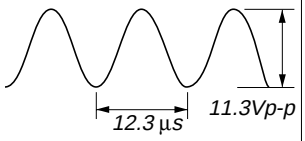
⑥ IC801 ⑯ (CF2)



1V/DIV, 40ns/DIV

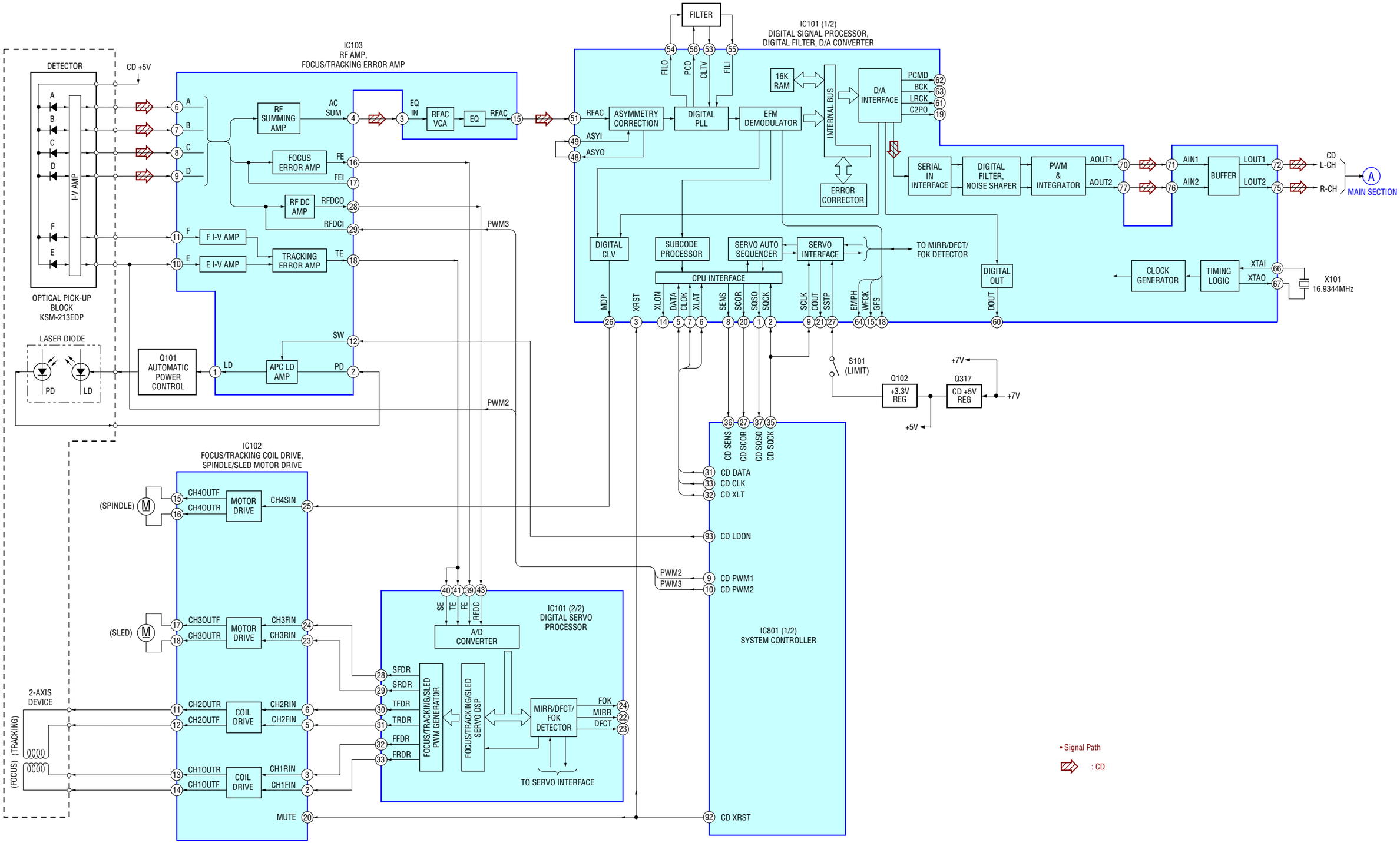
– MAIN Board –

⑦ Q307 collector (Rec mode)



5V/DIV, 4 µs/DIV

6-1. Block Diagram – CD Section –

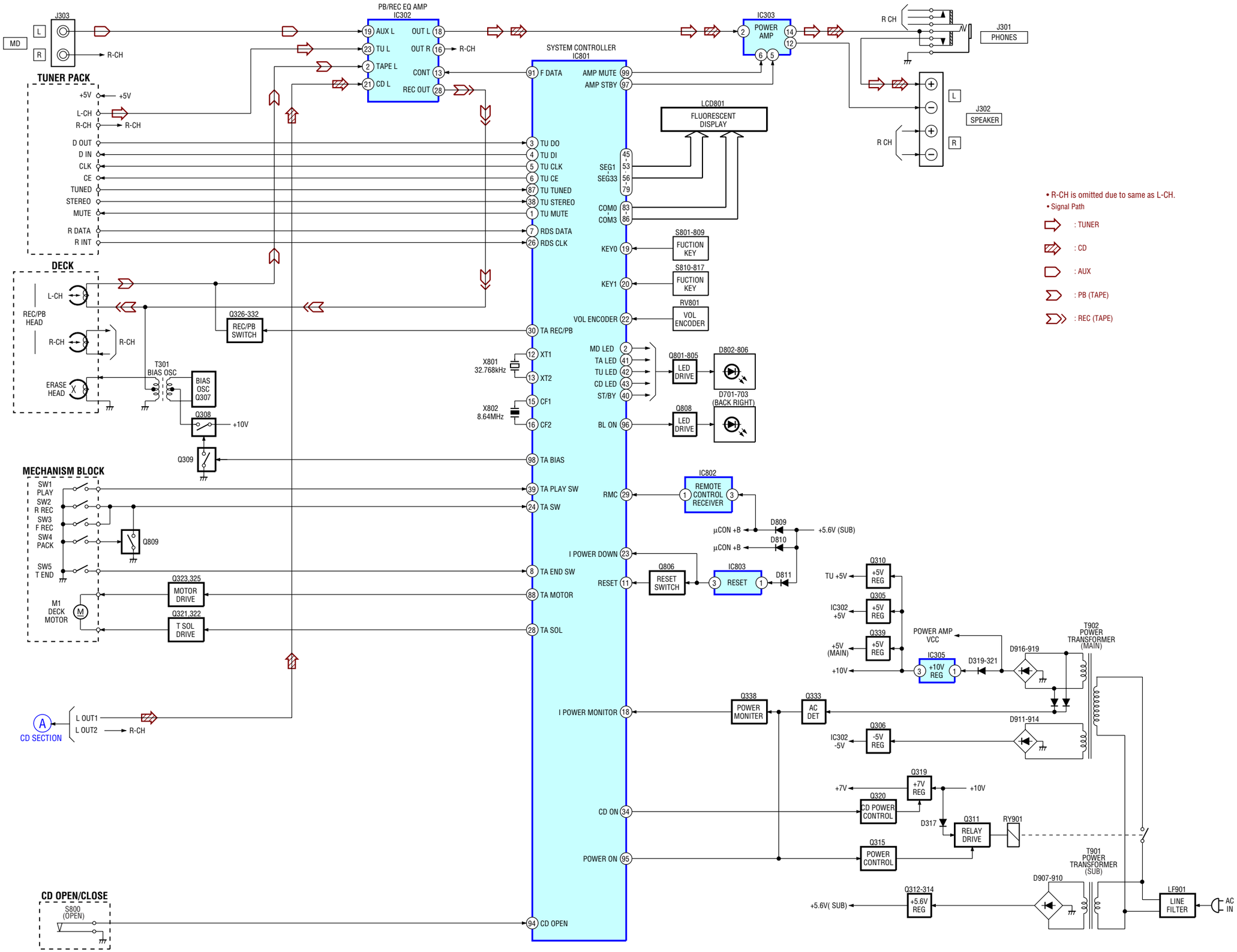


• Signal Path

: CD

HCD-EP515

6-2. Block Diagram – Main Section –

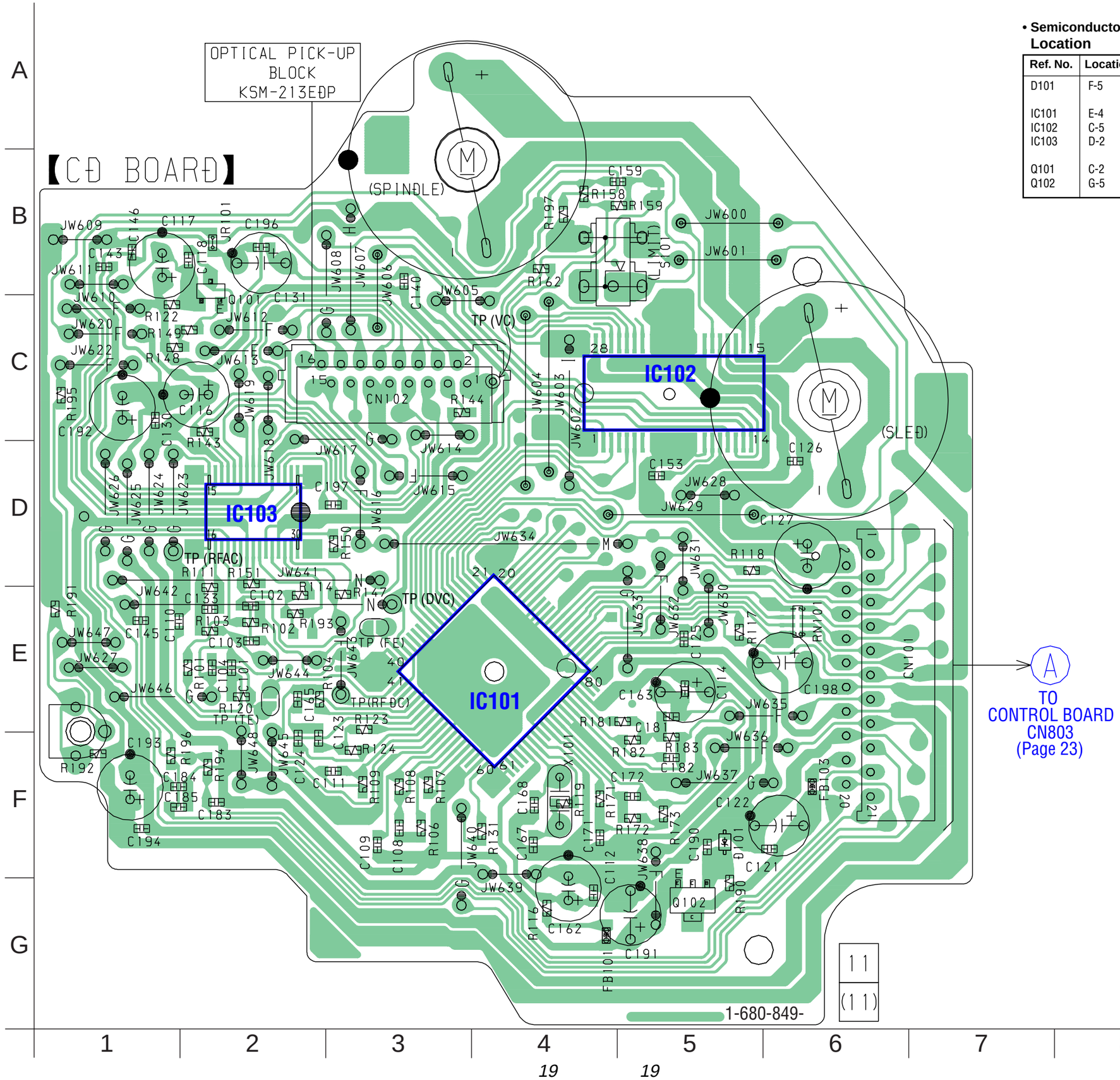


• R-CH is omitted due to same as L-CH.
• Signal Path

: TUNER
: CD
: AUX
: PB (TAPE)
: REC (TAPE)

6-3. Printed Wiring Board – CD Section –

• See page 15 for Circuit Boards Location.

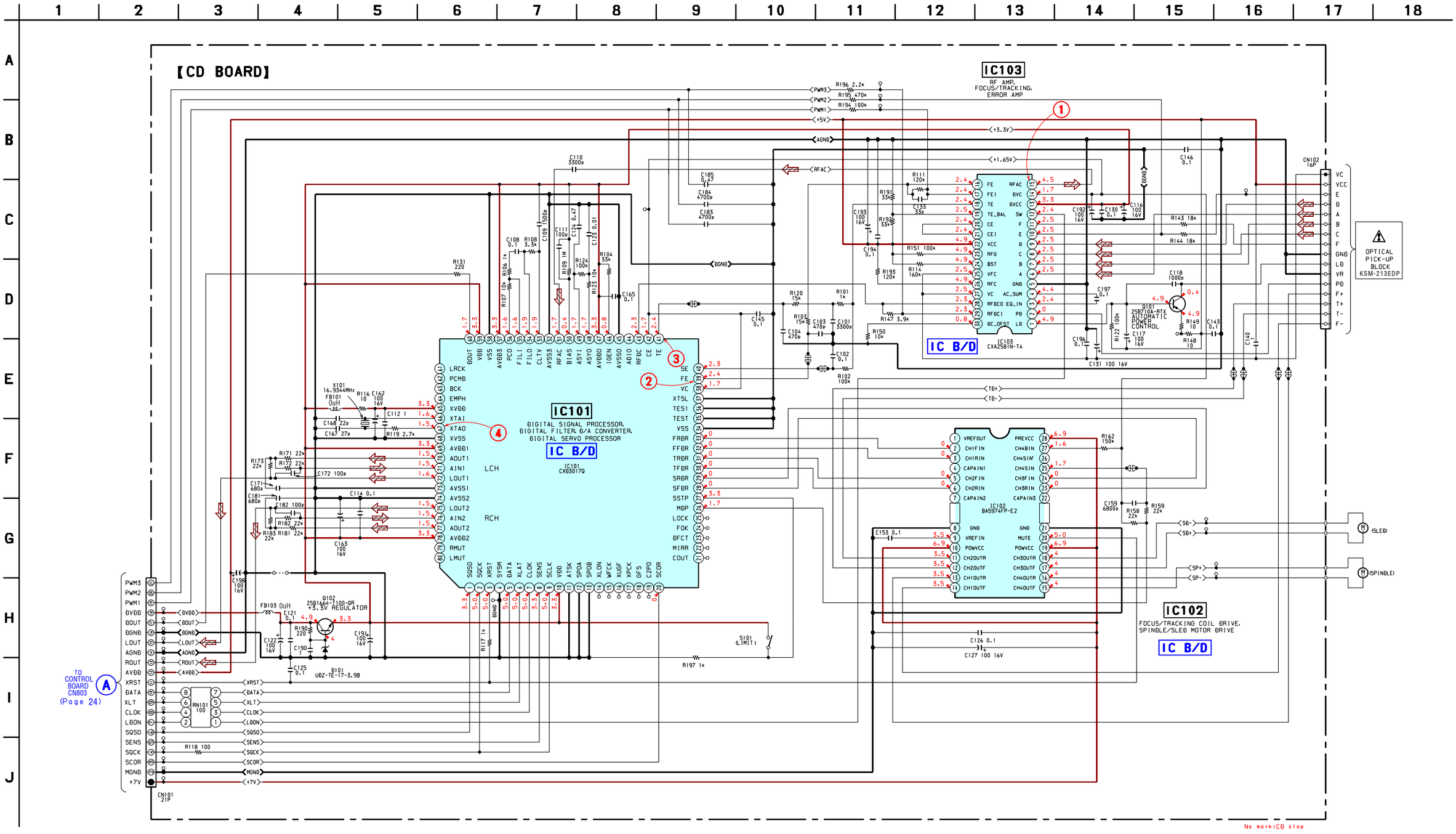


• **Semiconductor Location**

Ref. No.	Location
D101	F-5
IC101	E-4
IC102	C-5
IC103	D-2
Q101	C-2
Q102	G-5

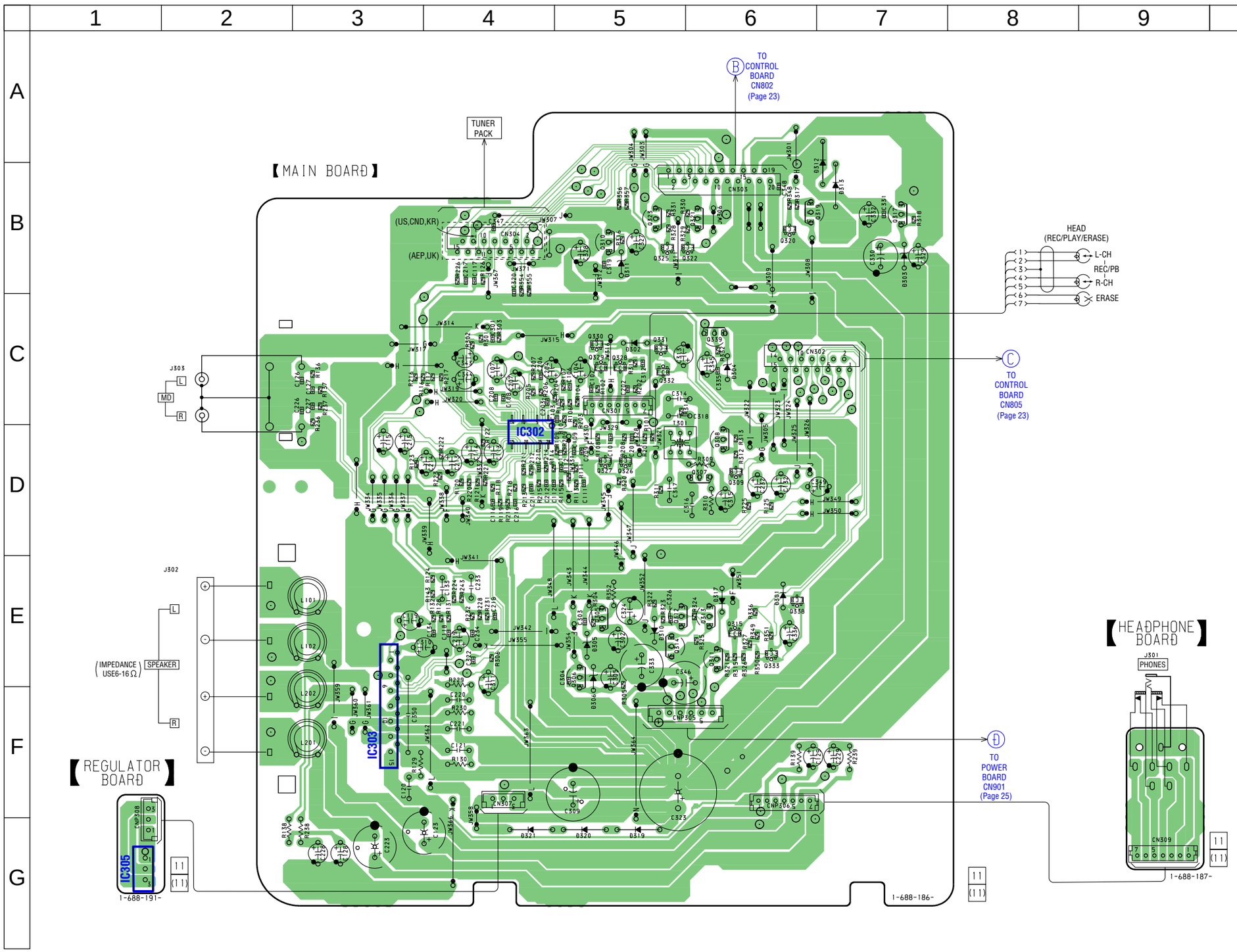
6-4. Schematic Diagram – CD Section –

• See page 16 for Waveforms. • See page 26 for IC Block Diagrams.



6-5. Printed Wiring Borads – Main Section –

• See page 15 for Circuit Boards Location.

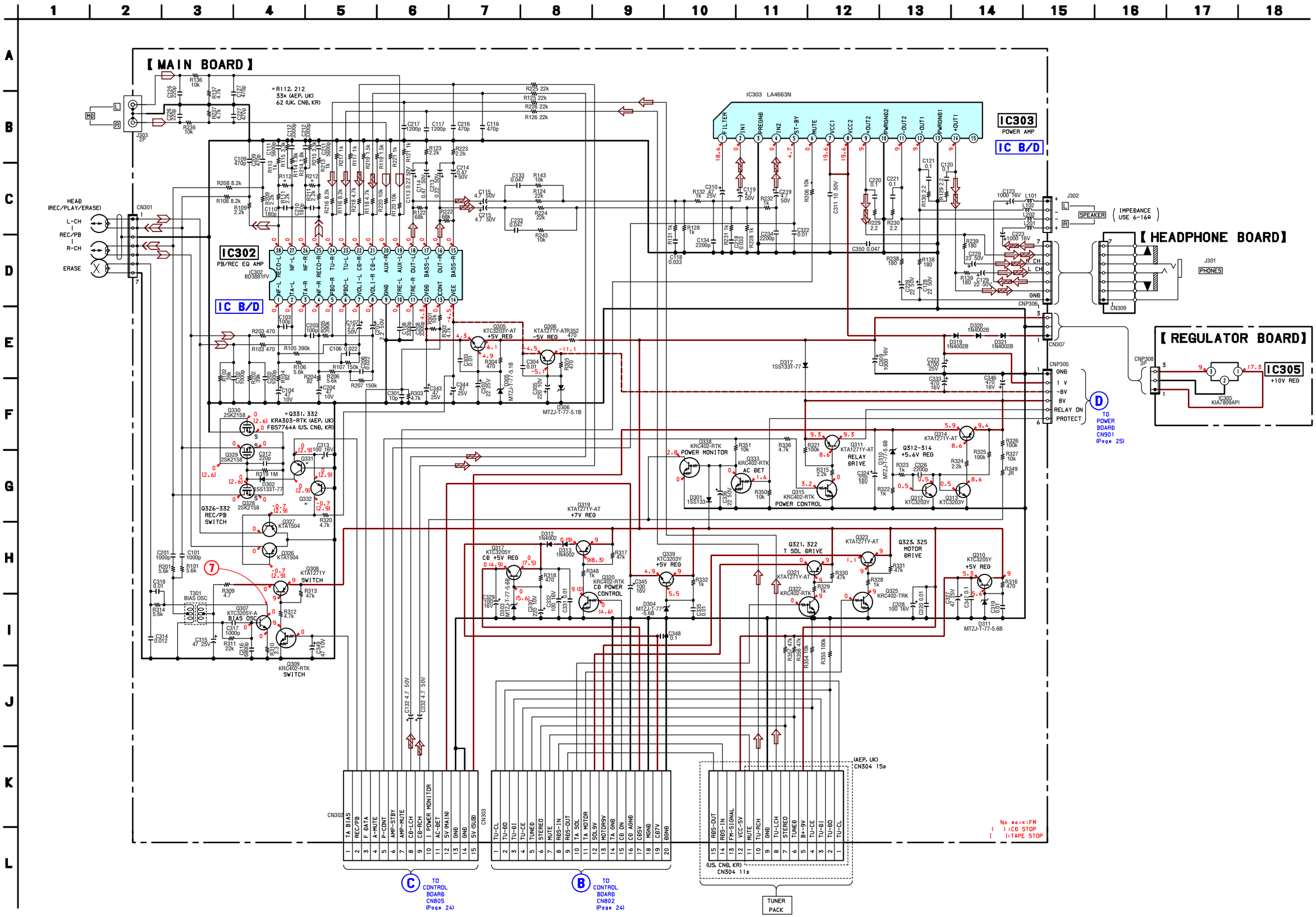


• **Semiconductor Location**

Ref. No.	Location
D301	E-6
D302	C-5
D303	B-7
D304	C-6
D305	E-5
D306	F-5
D310	E-5
D311	B-5
D312	A-7
D313	B-7
D317	E-6
D319	G-5
D320	G-5
D321	G-4
IC302	D-4
IC303	F-3
IC305	G-1
Q305	E-5
Q306	E-5
Q307	D-6
Q308	D-6
Q309	D-6
Q310	B-5
Q311	E-6
Q312	E-5
Q313	E-6
Q314	E-5
Q315	E-6
Q317	B-7
Q319	B-6
Q320	B-6
Q321	B-6
Q322	B-6
Q323	B-5
Q325	B-5
Q326	D-5
Q327	D-5
Q328	C-5
Q329	C-5
Q330	C-5
Q331	C-5
Q332	C-5
Q333	E-6
Q338	E-6
Q339	C-6

6-6. Schematic Diagram – Main Section –

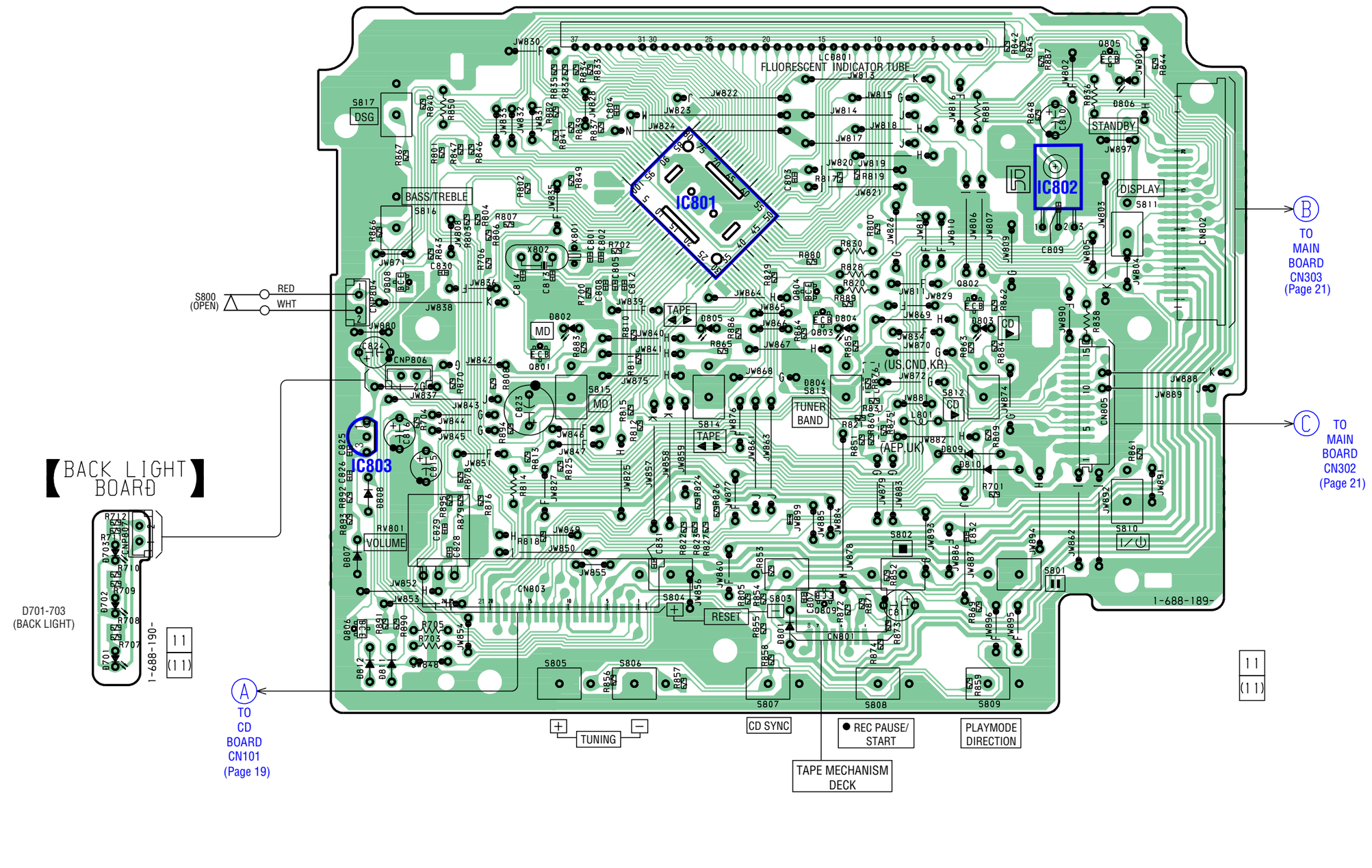
• See page 16 for Waveform. • See page 27 for IC Block Diagrams.



6-7. Printed Wiring Board – Control Section –

• See page 15 for Circuit Boards Location.

【CONTROL BOARD】



• **Semiconductor Location**

Ref. No.	Location
D701	E-1
D702	D-1
D703	D-1
D801	D-5
D802	C-4
D803	C-6
D804	C-5
D805	C-4
D806	B-7
D807	D-3
D808	D-3
D809	C-6
D810	C-6
D811	E-3
D812	E-3
IC801	B-4
IC802	B-6
IC803	C-3
Q801	C-3
Q802	C-6
Q803	C-5
Q804	C-5
Q805	A-7
Q806	D-3
Q808	C-3
Q809	D-5

6-8. Schematic Diagram – Control Section –

• See page 16 for Waveform.

【CONTROL BOARD】

【BACK LIGHT BOARD】

IC801 SYSTEM CONTROLLER

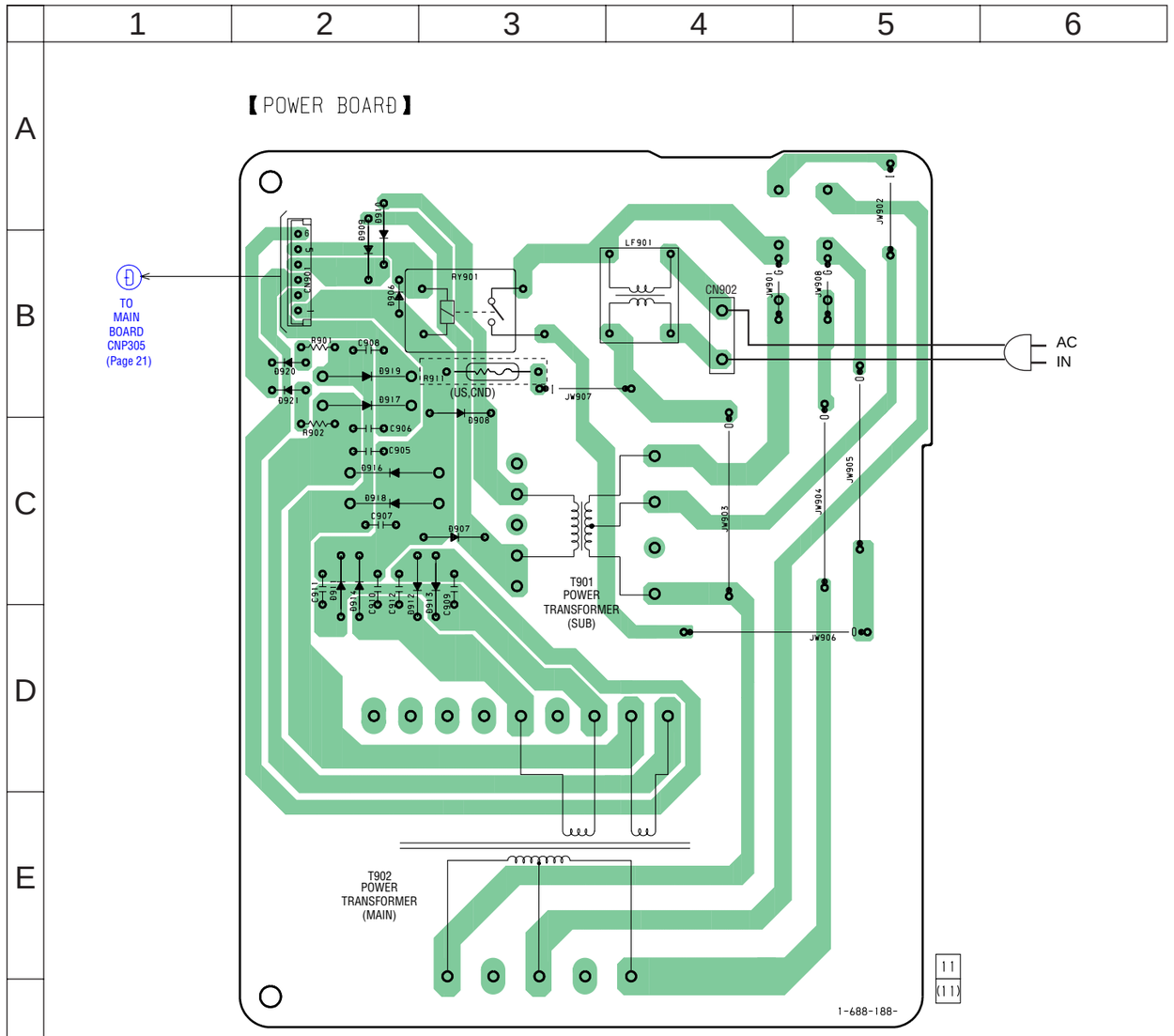
IC802 REMOTE CONTROL RECEIVER

IC803 RESET

TAPE MECHANISM DECK

6-9. Printed Wiring Board – Power Section –

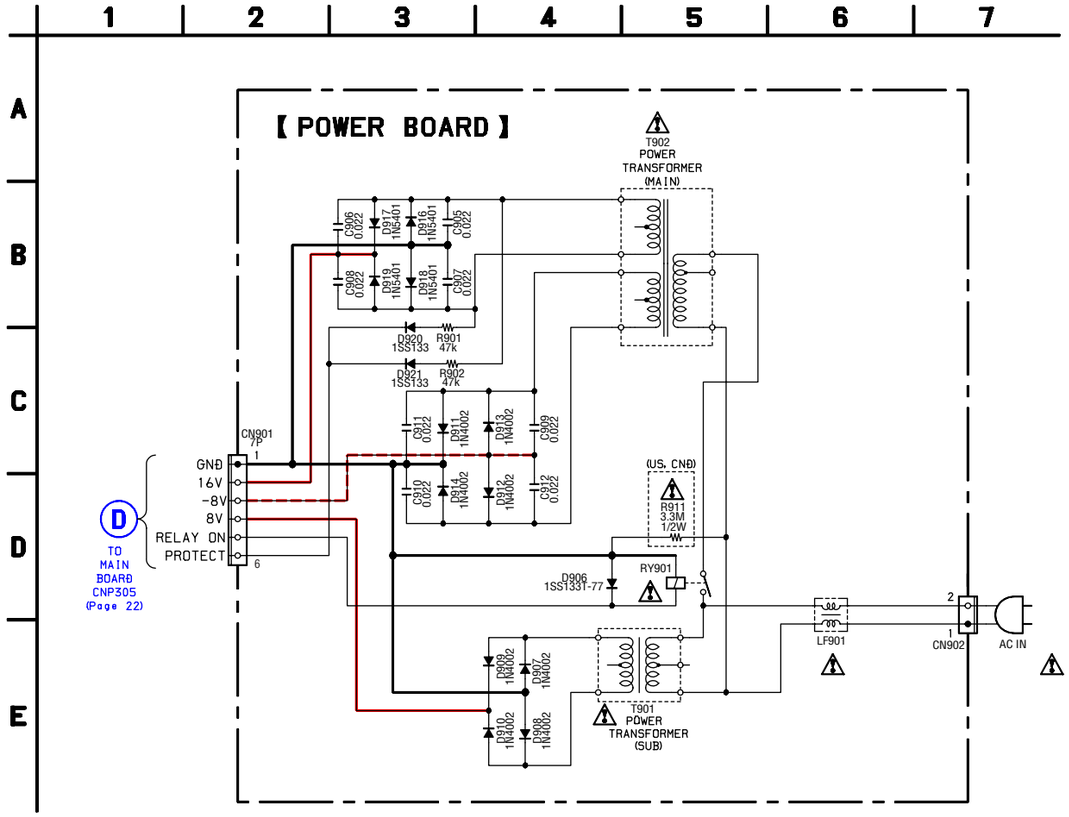
• See page 15 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D906	B-2
D907	C-3
D908	C-3
D909	B-2
D910	A-2
D911	C-2
D912	C-2
D913	C-3
D914	C-2
D916	C-2
D917	B-2
D918	C-2
D919	B-2
D920	B-2
D921	B-2

6-10. Schematic Diagram – Power Section –

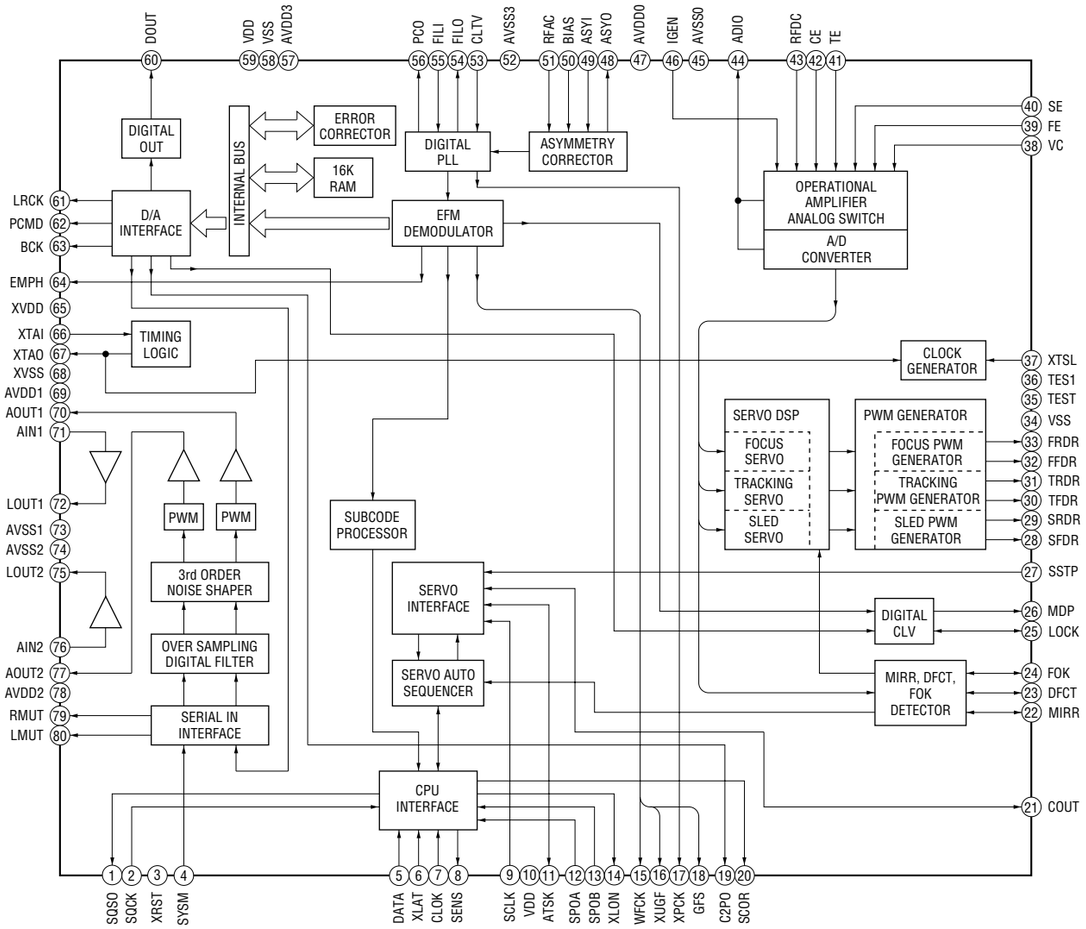


HCD-EP515

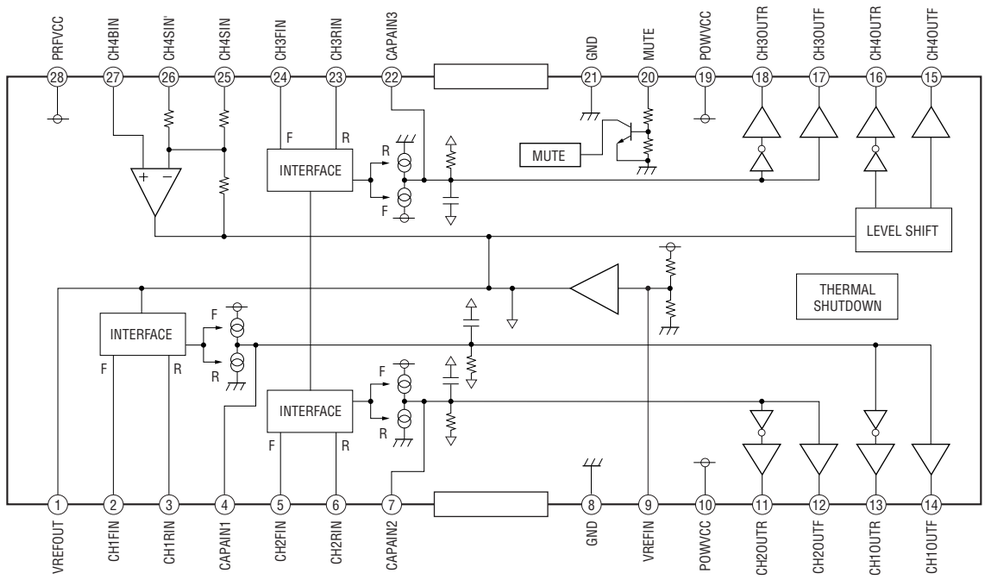
- **IC Block Diagrams**

– CD Board –

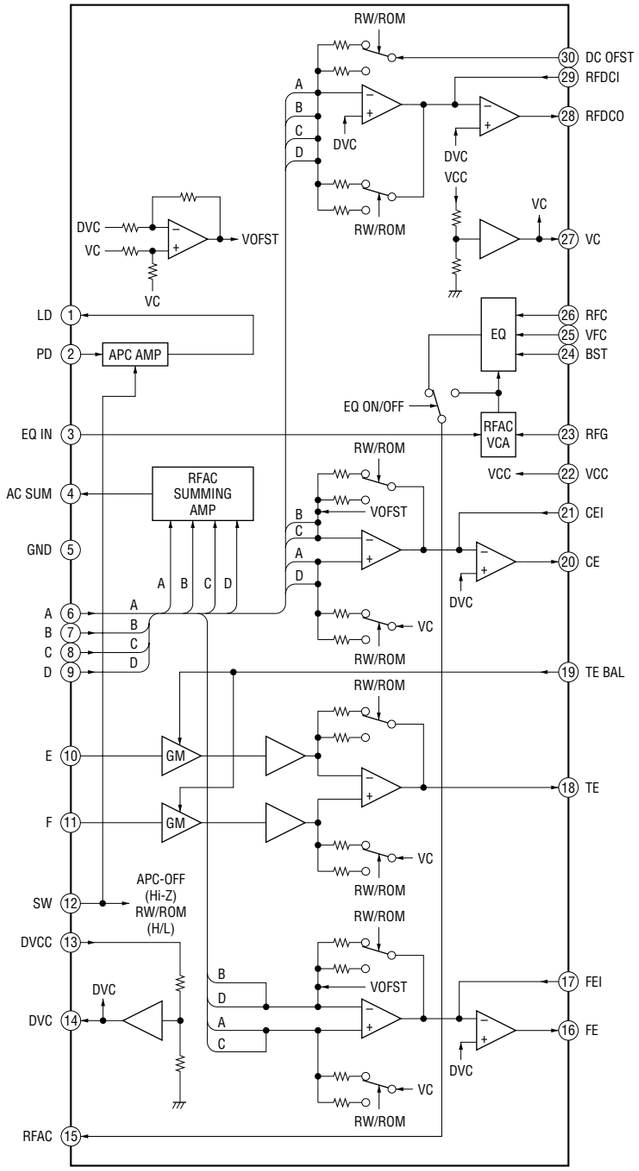
IC101 CXD3017Q



IC102 BA5974FP-E2

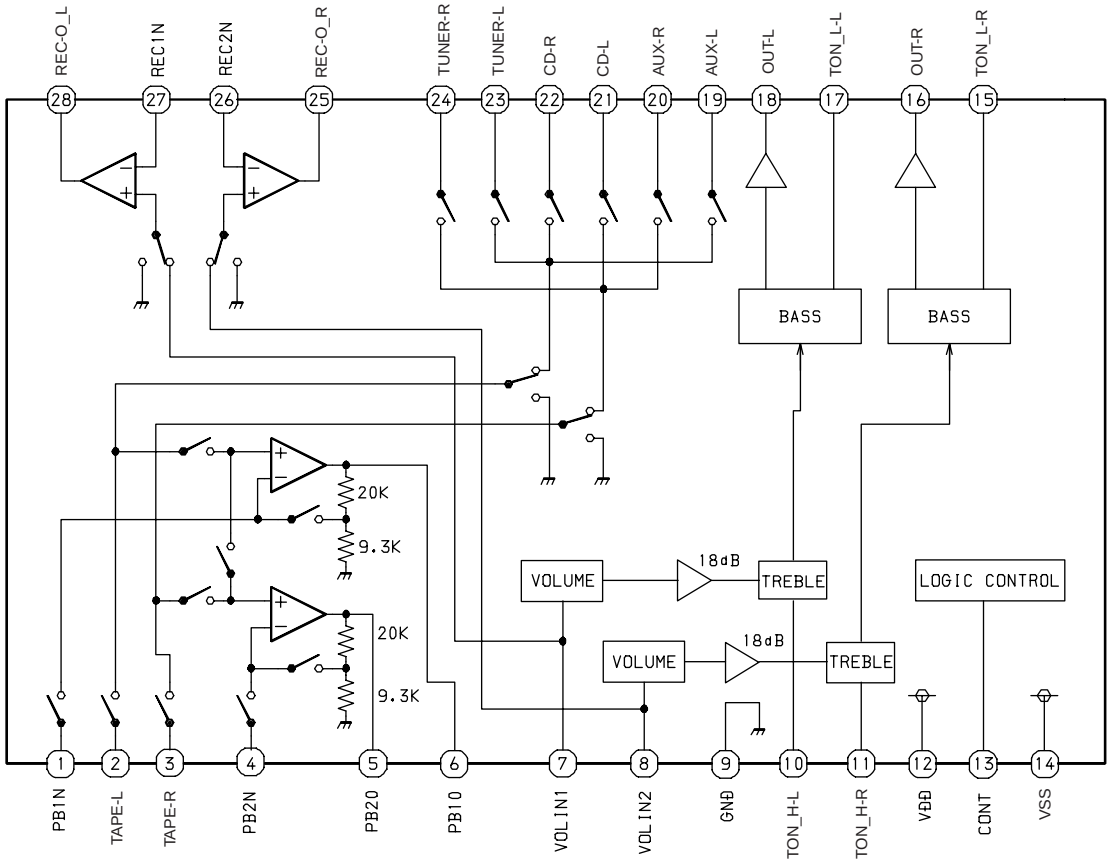


IC103 CXA2581N-T4

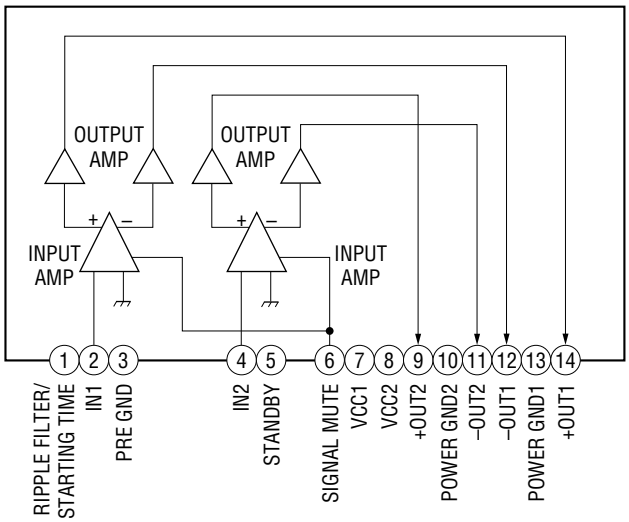


– MAIN Board –

IC302 BD3881FV



IC303 LA4663N



6-11. IC Pin Function Description

• IC801 LC877356A-51E1 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	TU MUTE	O	Muting signal output to the tuner
2	MD LED	O	MD LED control signal output
3	TU DO	O	Data output to the tuner
4	TU DI	I	Data input from the tuner
5	TU CLK	O	Clock signal output to the tuner
6	TU CE	O	Tuner chip enable signal output to the tuner
7	RDS DATA	I	RDS data input from the tuner
8	TA ENDSW	I	Tape deck reel switch signal input
9	CD PWM1	O	PWM1 signal output to the CD unit
10	CD PWM2	O	PWM2 signal output to the CD unit
11	RESET	I	Reset signal input from the reset IC (IC803)
12	XT1	I	Resonator terminal (32.768kHz)
13	XT2	O	Resonator terminal (32.768kHz)
14	VSS1	—	Ground terminal
15	CF1	I	Resonator terminal (8.64MHz)
16	CF2	O	Resonator terminal (8.64MHz)
17	VDD1	—	Power supply terminal
18	I POWER MONITOR	I	AC power detection signal input
19	KEY0	I	Key AD input 0
20	KEY1	I	Key AD input1
21	AREA	I	Destination setting terminal
22	VOL ENCODER	I	Encoder signal input from the volume encoder
23	I POWER DOWN	I	Power down detection signal input
24	TA-SW	I	Tape switch status signal input from the tape deck
25	CLK SHIFT	O	Clock shift control signal output
26	RDS CLOCK	I	RDS clock input from the tuner
27	CD SCOR	I	SCOR (SUBQ request) signal input from the CD unit
28	TA SOL	O	Solenoid control signal output to the tape deck
29	RMC	I	Remote sensor signal input
30	TA R/P	O	REC/PLAY control signal output to the REC/PLAY switch circuit
31	CD DATA	O	Data output to the CD unit
32	CD XLT	O	Latch signal output to the CD unit
33	CD CLK	O	Clock output to the CD unit
34	CD ON	O	CD power supply control signal output
35	CD SQCK	O	SUBQ clock output to the CD unit
36	CD SENS	I	SENS signal input from the CD unit
37	CD SQSO	I	SUB-Q data input from the CD unit
38	TU STEREO	I	Stereo/mono detection signal input from the tuner
39	TA PLAYSW	I	Play switch signal input from the tape deck
40	ST/BY	O	STANDBY LED control signal output
41	TA LED	O	TAPE LED control signal output
42	TU LED	O	TUNER LED control signal output
43	CD LED	O	CD LED control signal output
44	NC	—	Not used (open)
45 to 53	SEG	O	Segment signal output to the liquid crystal display module
54	VDD2	—	Power supply terminal
55	VSS2	—	Ground terminal
56 to 79	SEG	O	Segment signal output to the liquid crystal display module
80 to 82	LCD BIAS3 to 1	—	Output bias power supply terminal for the liquid crystal display module
83 to 86	LCD COM0 to 3	O	Common signal output to the liquid crystal display module

Pin No.	Pin Name	I/O	Description
87	TU TUNED	I	Tuner tuned status signal input
88	TA MOTOR	O	Motor control signal output to the tape deck
89	VSS3	—	Ground terminal
90	VDD3	—	Power supply terminal
91	F DATA	O	Control signal output to the sound processor
92	CD XRST	O	Reset signal output to the CD unit
93	CD LDON	O	LD ON signal output to the CD unit
94	CD OPEN	I	CD door open/close switch signal input
95	POWER ON	O	Power relay control signal output
96	BL ON	O	Back light control signal output
97	AMP ST-BY	O	Standby control signal output to the power amplifier
98	TA BIAS	O	Bias control signal output to the bias oscillation circuit
99	AMP MUTE	O	Muting control signal output to the power amplifier
100	AU MUTE	O	Not used

SECTION 7
EXPLODED VIEWS

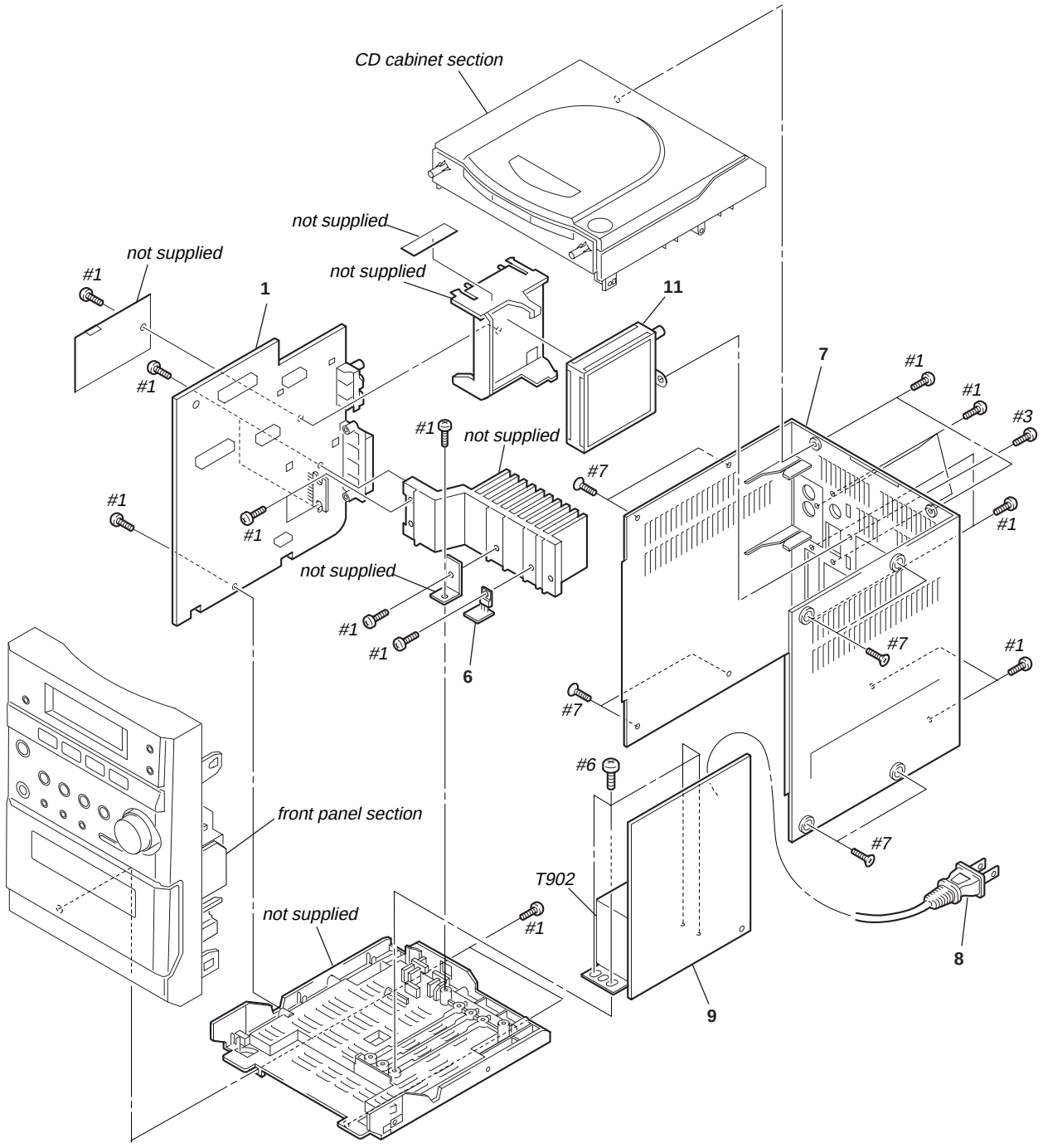
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  CND :Canadian model
  KR :Korean model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

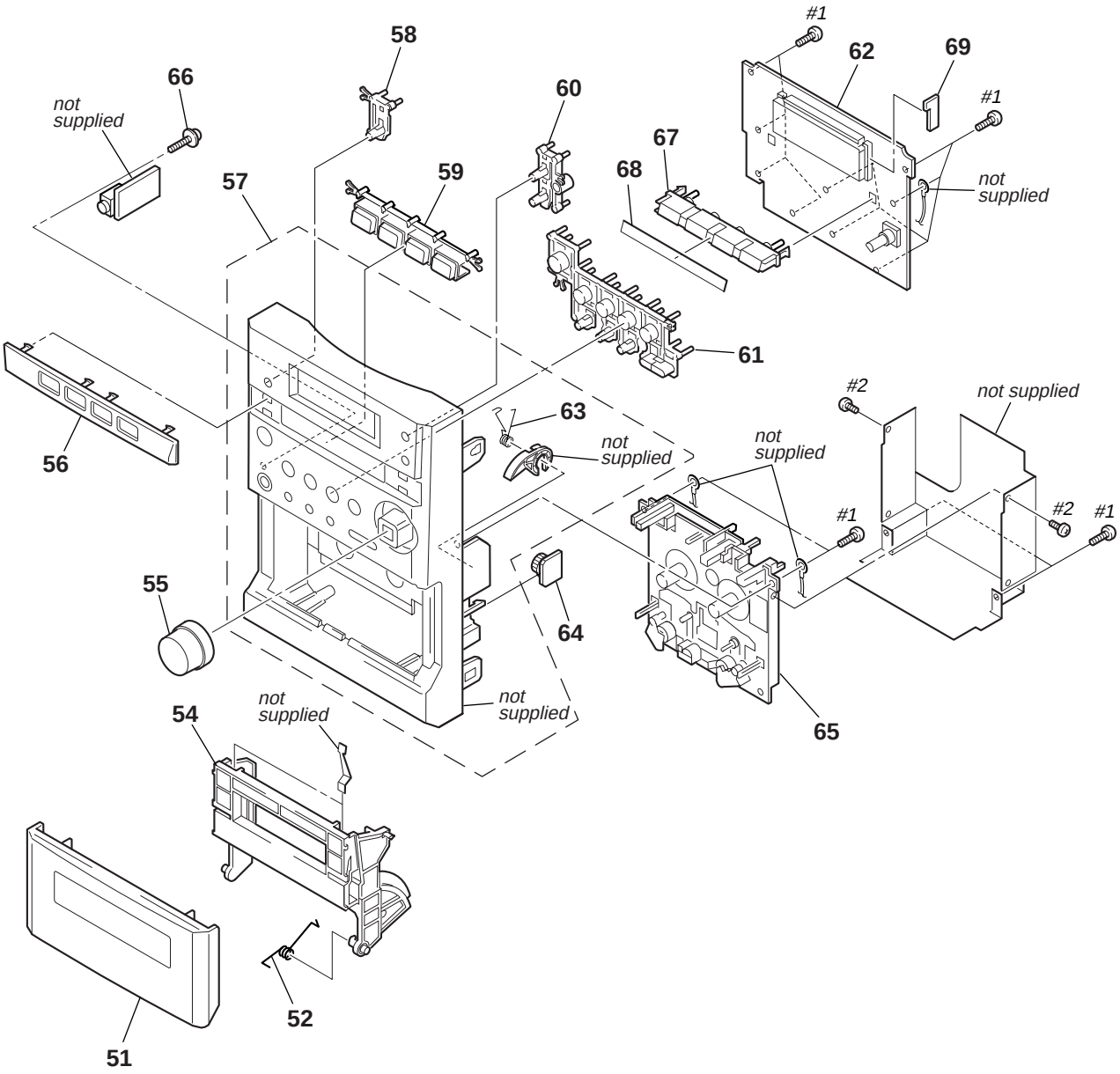
7-1. Cabinet Section



Ref. No.	Part No.	Description	Remark
1	A-4732-658-A	MAIN BOARD, COMPLETE (AEP, UK)	
1	A-4732-667-A	MAIN BOARD, COMPLETE (US, CND, KR)	
6	1-688-191-11	REGULATOR BOARD	
7	4-245-014-01	CABINET REAR	
⚠8	1-769-079-22	CORD, POWER (KR)	
⚠8	1-769-744-52	CORD, POWER (AEP, UK)	
⚠8	1-783-531-22	CORD, POWER (US,CND)	
9	1-688-188-11	POWER BOARD	
11	1-693-619-11	TUNER (FM/AM) (AEP,UK)	

Ref. No.	Part No.	Description	Remark
11	1-693-622-11	TUNER (FM/AM) (KR)	
11	1-693-624-11	TUNER (FM/AM) (US, CND)	
⚠T902	1-439-769-11	TRANSFORMER, POWER (KR)	
⚠T902	1-439-778-11	TRANSFORMER, POWER (AEP, UK)	
⚠T902	1-439-780-11	TRANSFORMER, POWER (US, CND)	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#3	7-685-647-11	SCREW +B 3X10	
#6	7-685-661-14	SCREW +BVTP 4X12 TYPE2 IT-3	
#7	7-685-247-14	SCREW +KTP 3X10 TYPE2 NON-SLIT	

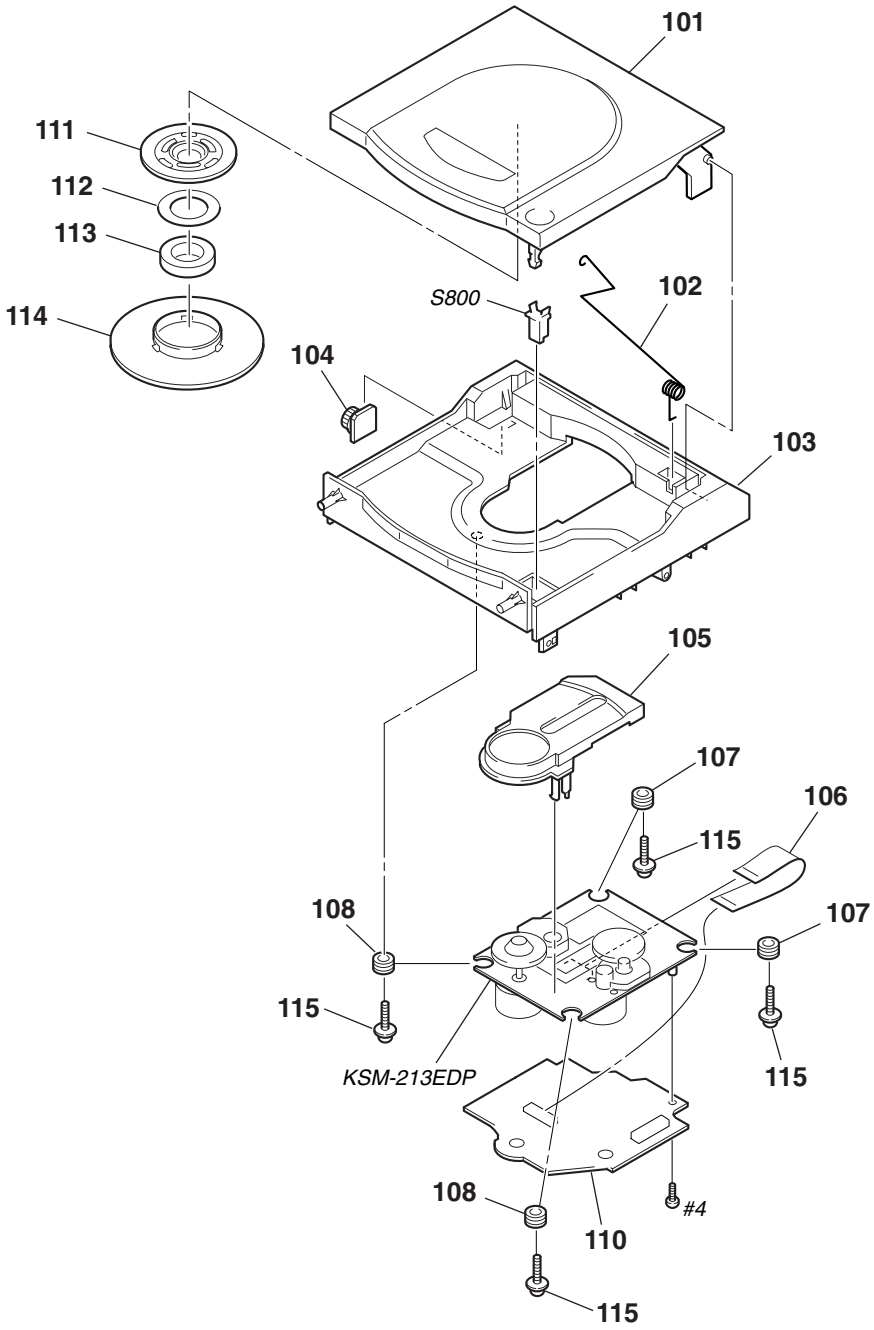
7-2. Front Panel Section



Ref. No.	Part No.	Description	Remark
51	A-4737-142-A	DOOR CASSETTE ASSY	
52	4-245-034-01	SPRING CASSETTE	
54	4-245-018-01	HOLDER CASSETTE	
55	4-245-032-01	KNOB VOLUME	
56	4-245-022-01	DECORATION FUNCTION	
57	A-4737-134-A	CABI FRONT ASSY (AEP, UK)	
57	A-4737-183-A	CABI FRONT ASSY (US, CND, KR)	
58	4-245-029-01	BUTTON (DISPLAY)	
59	4-245-027-01	KNOB (FUNCTION)	
60	4-245-028-01	BUTTON (BASS/TRE)	
61	4-245-026-01	KNOB (POWER)	
62	A-4732-653-A	CONTROL BOARD, COMPLETE (AEP, UK)	

Ref. No.	Part No.	Description	Remark
62	A-4732-665-A	CONTROL BOARD, COMPLETE (US, CND)	
62	A-4749-451-A	CONTROL BOARD, COMPLETE (KR)	
63	4-231-841-01	SPRING (HEART CAM-B)	
64	4-224-104-41	DAMPER	
65	1-796-351-51	MECHANISM, SINGLE CASSETTE	
66	4-960-167-01	SCREW (3X8) (DIA. 10), +WH	
67	4-245-033-01	HOLDER LED	
68	4-245-035-01	ILLUMINATOR	
69	1-688-190-11	BACK LIGHT BOARD	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-862-09	SCREW +BVTT 2.6X6 (S)	

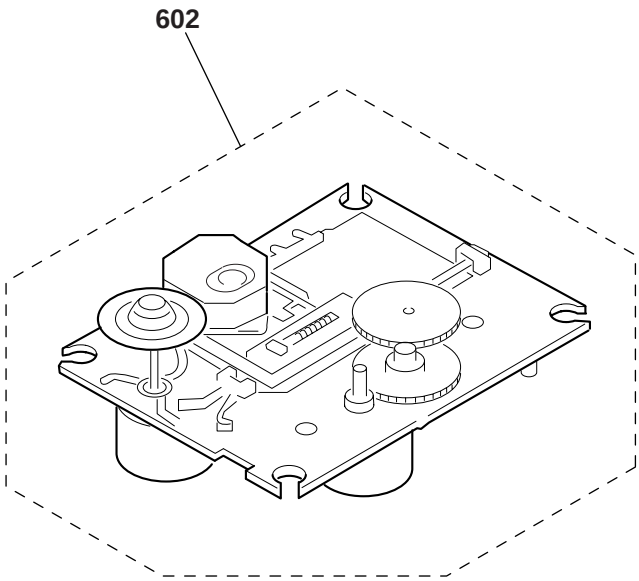
7-3. CD Cabinet Section



Ref. No.	Part No.	Description	Remark
101	X-4955-506-1	DOOR CD ASSY	
102	4-248-711-11	SPRING, CD	
103	4-245-015-01	CABINET, TOP (US,CND)	
103	4-245-015-11	CABINET, TOP (AEP,UK)	
104	4-242-171-01	DAMPER 150 N	
105	4-247-493-01	COVER, CD	
106	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
107	3-931-379-31	RUBBER, VIBRATION PROOF	
108	3-931-379-21	RUBBER, VIBRATION PROOF	

Ref. No.	Part No.	Description	Remark
110	A-4728-536-A	CD BOARD, COMPLETE	
111	4-246-193-01	HOLDER, CHUCK A	
112	4-246-191-01	PLATE, MAGNET	
113	4-249-238-01	MAGNET	
114	4-246-192-01	BASE, CHUCK N	
115	3-921-725-11	SCREW (2.6X10), +PWH	
S800	1-692-960-11	SWITCH, PUSH (1 KEY) (OPEN)	
#4	7-621-255-32	SCREW +P 2X5	

7-4. Optical Pick-up Block (KSM-213EDP)



Ref. No.	Part No.	Description	Remarks
⚠602	8-820-221-01	OPTCAL PICK-UP KSM-213EDP	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

BACK LIGHT | CD

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  CND : Canadian model
  KR : Korean model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
	1-688-190-11	BACK LIGHT BOARD			
		**********			
		< DIODE >			
D701	8-719-075-50	DIODE SELS6B14C-TP5 (BACK LIGHT)			
D702	8-719-075-50	DIODE SELS6B14C-TP5 (BACK LIGHT)			
D703	8-719-075-50	DIODE SELS6B14C-TP5 (BACK LIGHT)			
		< RESISTOR >			
R707	1-216-811-11	METAL CHIP	150	5%	1/10W
R708	1-216-811-11	METAL CHIP	150	5%	1/10W
R709	1-216-811-11	METAL CHIP	150	5%	1/10W
R710	1-216-811-11	METAL CHIP	150	5%	1/10W
R711	1-216-811-11	METAL CHIP	150	5%	1/10W
R712	1-216-811-11	METAL CHIP	150	5%	1/10W
**********					
	A-4728-536-A	CD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C103	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C104	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C109	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C112	1-115-156-11	CERAMIC CHIP	1uF		10V
C114	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C116	1-126-382-11	ELECT	100uF	20.00%	16V
C117	1-126-382-11	ELECT	100uF	20.00%	16V
C118	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C121	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C122	1-126-933-11	ELECT	100uF	20.00%	16V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-125-891-11	CERAMIC CHIP	0.47uF	10.00%	10V
C125	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C126	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C127	1-126-382-11	ELECT	100uF	20.00%	16V
C130	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C131	1-126-933-11	ELECT	100uF	20.00%	16V
C133	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C140	1-115-156-11	CERAMIC CHIP	1uF		10V
C143	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C145	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C146	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C153	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C159	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C162	1-126-382-11	ELECT	100uF	20.00%	16V
C163	1-126-933-11	ELECT	100uF	20.00%	16V
C165	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C167	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C168	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C171	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C172	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C181	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C182	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C183	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C184	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C185	1-125-891-11	CERAMIC CHIP	0.47uF	10.00%	10V
C190	1-115-156-11	CERAMIC CHIP	1uF		10V
C191	1-126-933-11	ELECT	100uF	20.00%	16V
C192	1-126-382-11	ELECT	100uF	20.00%	16V
C193	1-126-382-11	ELECT	100uF	20.00%	16V
C194	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C196	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C197	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C198	1-126-933-11	ELECT	100uF	20.00%	16V
		< CONNECTOR >			
CN101	1-770-528-31	CONNECTOR, FFC/FPC 21P			
CN102	1-779-466-11	CONNECTOR,FFC(LIF(NON-ZIF))16P			
		< DIODE >			
D101	8-719-056-77	DIODE UDZ-TE-17-3.9B			
		< FERRITE BEAD >			
FB101	1-469-144-21	FERRITE	0uH		
FB103	1-469-144-21	FERRITE	0uH		
		< IC >			
IC101	8-752-402-31	IC CXD3017Q			
IC102	8-759-549-28	IC BA5974FP-E2			
IC103	8-752-089-74	IC CXA2581N-T4			
		< JUMPER RESISTOR >			
JR101	1-216-864-11	METAL CHIP	0		
		< TRANSISTOR >			
Q101	8-729-049-31	TRANSISTOR	2SB710A-RTX		
Q102	8-729-920-85	TRANSISTOR	2SD1664-T100-QR		

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R101	1-216-821-11	METAL CHIP	1K	5%	1/10W
R102	1-216-845-11	METAL CHIP	100K	5%	1/10W
R103	1-216-835-11	METAL CHIP	15K	5%	1/10W
R104	1-216-839-11	METAL CHIP	33K	5%	1/10W
R106	1-216-821-11	METAL CHIP	1K	5%	1/10W
R107	1-216-833-11	METAL CHIP	10K	5%	1/10W
R108	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R109	1-216-857-11	METAL CHIP	1M	5%	1/10W
R111	1-216-846-11	METAL CHIP	120K	5%	1/10W
R114	1-218-745-11	METAL CHIP	160K	5%	1/10W
R116	1-216-797-11	METAL CHIP	10	5%	1/10W
R117	1-216-821-11	METAL CHIP	1K	5%	1/10W
R118	1-216-809-11	METAL CHIP	100	5%	1/10W
R119	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R120	1-216-835-11	METAL CHIP	15K	5%	1/10W
R122	1-216-845-11	METAL CHIP	100K	5%	1/10W
R123	1-216-833-11	METAL CHIP	10K	5%	1/10W
R124	1-216-845-11	METAL CHIP	100K	5%	1/10W
R131	1-216-813-11	METAL CHIP	220	5%	1/10W
R143	1-216-836-11	METAL CHIP	18K	5%	1/10W
R144	1-216-836-11	METAL CHIP	18K	5%	1/10W
R147	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R148	1-216-797-11	METAL CHIP	10	5%	1/10W
R149	1-216-797-11	METAL CHIP	10	5%	1/10W
R150	1-216-833-11	METAL CHIP	10K	5%	1/10W
R151	1-216-845-11	METAL CHIP	100K	5%	1/10W
R158	1-216-837-11	METAL CHIP	22K	5%	1/10W
R159	1-216-837-11	METAL CHIP	22K	5%	1/10W
R162	1-216-847-11	METAL CHIP	150K	5%	1/10W
R171	1-216-837-11	METAL CHIP	22K	5%	1/10W
R172	1-216-837-11	METAL CHIP	22K	5%	1/10W
R173	1-216-837-11	METAL CHIP	22K	5%	1/10W
R181	1-216-837-11	METAL CHIP	22K	5%	1/10W
R182	1-216-837-11	METAL CHIP	22K	5%	1/10W
R183	1-216-837-11	METAL CHIP	22K	5%	1/10W
R190	1-216-813-11	METAL CHIP	220	5%	1/10W
R191	1-216-839-11	METAL CHIP	33K	5%	1/10W
R192	1-216-839-11	METAL CHIP	33K	5%	1/10W
R193	1-216-846-11	METAL CHIP	120K	5%	1/10W
R194	1-216-845-11	METAL CHIP	100K	5%	1/10W
R195	1-216-853-11	METAL CHIP	470K	5%	1/10W
R196	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R197	1-216-821-11	METAL CHIP	1K	5%	1/10W
		< NETWORK >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-771-853-11	SWITCH, DETECTION (LIMIT)			
		< VIBRATOR >			
X101	1-767-226-11	VIBRATOR, CRYSTAL (16.9344 MHz)			

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Ref. No.	Part No.	Description			Remarks
	A-4732-653-A	CONTROL BOARD, COMPLETE (AEP, UK)			
	A-4732-665-A	CONTROL BOARD, COMPLETE (US, CND)			
	A-4749-451-A	CONTROL BOARD, COMPLETE (KR)			
		**********			
	4-245-030-01	HOLDER LCD			
	4-245-033-01	HOLDER LED			
	4-245-035-01	ILLUMINATOR			
	4-245-801-01	SHEET, LED			
		< CAPACITOR >			
C801	1-162-975-91	CERAMIC CHIP	24PF	5.00%	50V
C802	1-162-975-91	CERAMIC CHIP	24PF	5.00%	50V
C803	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C804	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C805	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C807	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C808	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C809	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C810	1-126-153-11	ELECT	22uF	20%	6.3V
C811	1-126-153-11	ELECT	22uF	20%	6.3V
C812	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C813	1-164-160-11	CERAMIC CHIP	20PF	5.00%	50V
C814	1-164-160-11	CERAMIC CHIP	20PF	5.00%	50V
C815	1-126-160-11	ELECT	1uF	20%	50V
C816	1-126-160-11	ELECT	1uF	20%	50V
C823	1-126-935-11	ELECT	470uF	20.00%	6.3V
C824	1-124-589-11	ELECT	47uF	20%	16V
C825	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C826	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C828	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C829	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C830	1-107-826-91	CERAMIC CHIP	0.1uF	10%	50V
C831	1-107-826-91	CERAMIC CHIP	0.1uF	10%	50V
C832	1-107-826-91	CERAMIC CHIP	0.1uF	10%	50V
		< DIODE >			
D801	8-719-991-33	DIODE 1SS133T-77			
D802	8-719-075-50	DIODE SELS6B14C-TP5 (MD)			
D803	8-719-075-50	DIODE SELS6B14C-TP5 (CD ▶)			
D804	8-719-075-50	DIODE SELS6B14C-TP5 (TUNER BAND)			
D805	8-719-075-50	DIODE SELS6B14C-TP5 (TAPE BAND)			
D806	8-719-062-12	DIODE SEL2215S-CD-TP (STANDBY)			
D807	8-719-991-33	DIODE 1SS133T-77			
D808	8-719-991-33	DIODE 1SS133T-77			
D809	8-719-991-33	DIODE 1SS133T-77			
D810	8-719-991-33	DIODE 1SS133T-77			
D811	8-719-991-33	DIODE 1SS133T-77			
D812	8-719-991-33	DIODE 1SS133T-77			
		< IC >			
IC801	6-802-945-01	IC LC877356A-51E1			
IC802	8-759-827-69	IC NJL63H400A-1 (R)			
IC803	8-759-637-58	IC PST592C-T			
		< COIL >			
L801	1-410-328-31	INDUCTOR	10uH		

Ref. No.	Part No.	Description			Remarks
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-805-198-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q801	8-729-054-16	TRANSISTOR KRC402-RTK			
Q802	8-729-054-16	TRANSISTOR KRC402-RTK			
Q803	8-729-054-16	TRANSISTOR KRC402-RTK			
Q804	8-729-054-16	TRANSISTOR KRC402-RTK			
Q805	8-729-054-16	TRANSISTOR KRC402-RTK			
Q806	8-729-034-51	TRANSISTOR KTC3875			
Q808	8-729-054-16	TRANSISTOR KRC402-RTK			
Q809	8-729-038-67	TRANSISTOR KRC102S			
		< RESISTOR >			
R700	1-216-864-11	METAL CHIP	0	5%	1/10W
R701	1-216-841-11	METAL CHIP	47K	5%	1/10W
R702	1-216-852-11	METAL CHIP	390K	5%	1/10W
R703	1-247-807-91	CARBON	100	5%	1/4W
R704	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R705	1-247-807-91	CARBON	100	5%	1/4W
R706	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R800	1-216-821-11	METAL CHIP	1K	5%	1/10W F
R801	1-216-821-11	METAL CHIP	1K	5%	1/10W
R802	1-216-821-11	METAL CHIP	1K	5%	1/10W
R803	1-216-821-11	METAL CHIP	1K	5%	1/10W
R804	1-216-821-11	METAL CHIP	1K	5%	1/10W
R805	1-216-821-11	METAL CHIP	1K	5%	1/10W F
R806	1-216-821-11	METAL CHIP	1K	5%	1/10W
R807	1-216-821-11	METAL CHIP	1K	5%	1/10W
R808	1-216-821-11	METAL CHIP	1K	5%	1/10W
R809	1-216-849-11	METAL CHIP	220K	5%	1/10W
R810	1-216-821-11	METAL CHIP	1K	5%	1/10W
R811	1-216-821-11	METAL CHIP	1K	5%	1/10W
R812	1-216-821-11	METAL CHIP	1K	5%	1/10W
R813	1-249-433-11	CARBON	22K	5%	1/4W
R814	1-249-437-11	CARBON	47K	5%	1/4W
R815	1-216-821-11	METAL CHIP	1K	5%	1/10W
R816	1-216-837-11	METAL CHIP	22K	5%	1/10W
R817	1-216-821-11	METAL CHIP	1K	5%	1/10W
R818	1-216-821-11	METAL CHIP	1K	5%	1/10W
R819	1-216-821-11	METAL CHIP	1K	5%	1/10W
R820	1-249-438-11	CARBON	56K	5%	1/4W
R821	1-216-821-11	METAL CHIP	1K	5%	1/10W
R822	1-216-821-11	METAL CHIP	1K	5%	1/10W
R823	1-216-821-11	METAL CHIP	1K	5%	1/10W
R824	1-216-821-11	METAL CHIP	1K	5%	1/10W
R825	1-249-417-11	CARBON	1K	5%	1/4W F
R826	1-249-417-11	CARBON	1K	5%	1/4W F
R827	1-216-821-11	METAL CHIP	1K	5%	1/10W
R828	1-249-417-11	CARBON	1K	5%	1/4W F
R829	1-216-821-11	METAL CHIP	1K	5%	1/10W
R830	1-249-417-11	CARBON	1K	5%	1/4W F
R831	1-249-417-11	CARBON	1K	5%	1/4W F
R832	1-216-845-11	METAL CHIP	100K	5%	1/10W
R833	1-216-841-11	METAL CHIP	47K	5%	1/10W
R834	1-216-841-11	METAL CHIP	47K	5%	1/10W
R835	1-216-841-11	METAL CHIP	47K	5%	1/10W
R836	1-249-417-11	CARBON	1K	5%	1/4W F
R837	1-216-821-11	METAL CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R838	1-249-417-11	CARBON	1K	5%	1/4W F
R839	1-216-821-11	METAL CHIP	1K	5%	1/10W
R840	1-216-821-11	METAL CHIP	1K	5%	1/10W
R841	1-216-821-11	METAL CHIP	1K	5%	1/10W
R842	1-216-821-11	METAL CHIP	1K	5%	1/10W
R843	1-216-821-11	METAL CHIP	1K	5%	1/10W
R844	1-216-821-11	METAL CHIP	1K	5%	1/10W
R845	1-216-821-11	METAL CHIP	1K	5%	1/10W
R846	1-216-821-11	METAL CHIP	1K	5%	1/10W
R847	1-216-821-11	METAL CHIP	1K	5%	1/10W
R848	1-216-821-11	METAL CHIP	1K	5%	1/10W
R849	1-216-821-11	METAL CHIP	1K	5%	1/10W
R850	1-249-417-11	CARBON	1K	5%	1/4W F
R851	1-216-833-11	METAL CHIP	10K	5%	1/10W
R852	1-216-817-11	METAL CHIP	470	5%	1/10W
R853	1-216-819-11	METAL CHIP	680	5%	1/10W
R854	1-216-821-11	METAL CHIP	1K	5%	1/10W
R855	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R856	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R857	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R858	1-216-833-11	METAL CHIP	10K	5%	1/10W
R859	1-216-837-11	METAL CHIP	22K	5%	1/10W
R860	1-216-833-11	METAL CHIP	10K	5%	1/10W
R861	1-216-817-11	METAL CHIP	470	5%	1/10W
R862	1-216-819-11	METAL CHIP	680	5%	1/10W
R863	1-216-821-11	METAL CHIP	1K	5%	1/10W F
R864	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R865	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R866	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R867	1-216-833-11	METAL CHIP	10K	5%	1/10W
R869	1-216-841-11	METAL CHIP	47K	5%	1/10W
R870	1-249-437-11	CARBON	47K	5%	1/4W
R871	1-216-837-11	METAL CHIP	22K	5%	1/10W
R872	1-216-839-11	METAL CHIP	33K	5%	1/10W
R873	1-216-837-11	METAL CHIP	22K	5%	1/10W
R874	1-216-837-11	METAL CHIP	22K	5%	1/10W
R875	1-216-841-11	METAL CHIP	47K	5%	1/10W (AEP, UK)
R876	1-216-864-11	METAL CHIP	0	5%	1/10W (US, CND)
R876	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (KR)
R878	1-216-833-11	METAL CHIP	10K	5%	1/10W
R879	1-216-833-11	METAL CHIP	10K	5%	1/10W
R880	1-216-821-11	METAL CHIP	1K	5%	1/10W
R881	1-247-807-31	CARBON	100	5%	1/4W
R882	1-216-845-11	METAL CHIP	100K	5%	1/10W
R883	1-216-817-11	METAL CHIP	470	5%	1/10W
R884	1-216-817-11	METAL CHIP	470	5%	1/10W
R885	1-216-817-11	METAL CHIP	470	5%	1/10W
R886	1-216-817-11	METAL CHIP	470	5%	1/10W
R887	1-216-821-11	METAL CHIP	1K	5%	1/10W
R889	1-216-821-11	METAL CHIP	1K	5%	1/10W
R890	1-216-821-11	METAL CHIP	1K	5%	1/10W
R891	1-216-821-11	METAL CHIP	1K	5%	1/10W
R892	1-216-841-11	METAL CHIP	47K	5%	1/10W
R893	1-216-841-11	METAL CHIP	47K	5%	1/10W
R894	1-216-837-11	METAL CHIP	22K	5%	1/10W
R895	1-216-833-11	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description	Remarks
		< ROTARY ENCODER >	
RV801	1-418-632-11	ENCODER, ROTARY (12 TYPE) (VOLUME)	
		< SWITCH >	
S801	1-786-050-21	SWITCH, KEY BOARD (▮▮)	
S802	1-786-050-21	SWITCH, KEY BOARD (■)	
S803	1-786-050-21	SWITCH, KEY BOARD (PRESET-)	
S804	1-786-050-21	SWITCH, KEY BOARD (PRESET+)	
S805	1-786-050-21	SWITCH, KEY BOARD (TUNING+)	
S806	1-786-050-21	SWITCH, KEY BOARD (TUNING-)	
S807	1-786-050-21	SWITCH, KEY BOARD (CD SYNC)	
S808	1-786-050-21	SWITCH, KEY BOARD (● REC PAUSE/START)	
S809	1-786-050-21	SWITCH, KEY BOARD (PLAY MODE DIRECTION)	
S810	1-786-050-21	SWITCH, KEY BOARD (I/⏻)	
S811	1-786-050-21	SWITCH, KEY BOARD (DISPLAY)	
S812	1-786-050-21	SWITCH, KEY BOARD (CD ►)	
S813	1-786-050-21	SWITCH, KEY BOARD (TUNER BAND)	
S814	1-786-050-21	SWITCH, KEY BOARD (TAPE ◄►)	
S815	1-786-050-21	SWITCH, KEY BOARD (MD)	
S816	1-786-050-21	SWITCH, KEY BOARD (BASS/TREBLE)	
S817	1-786-050-21	SWITCH, KEY BOARD (DSG)	
		< VIBRATOR >	
X801	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
X802	1-795-880-11	VIBRATOR, CERAMIC (8.64MHz)	
**********			
		HEADPHONE BOARD	
		**********	
		< CONNECTOR >	
CN307	1-564-723-11	PIN, CONNECTOR (SMALL TYPE) 7P	
		< JACK >	
J301	1-816-219-11	JACK, HEADPHONE (PHONES)	
**********			
	A-4732-658-A	MAIN BOARD, COMPLETE (AEP, UK)	
	A-4732-667-A	MAIN BOARD, COMPLETE (US, CND, KR)	
		**********	
	1-693-619-11	TUNER (FM/AM) (AEP, UK)	
	1-693-620-11	TUNER (FM/AM) (US, CND)	
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
		< CONNECTOR >	

Ref. No.	Part No.	Description			Remarks
C101	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C102	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C103	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C104	1-104-657-91	ELECT	47uF	20.00%	10V
C106	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C107	1-126-961-11	ELECT	2.2uF	20.00%	50V
C108	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C109	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C110	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C111	1-164-172-11	CERAMIC CHIP	0.0056uF	10.00%	25V
C112	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C113	1-126-957-11	ELECT	0.22uF	20.00%	50V
C114	1-126-959-11	ELECT	0.47uF	20.00%	50V
C115	1-126-963-11	ELECT	4.7uF	20.00%	50V
C116	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C117	1-164-730-11	CERAMIC CHIP	0.0012uF	10.00%	50V
C118	1-164-677-11	CERAMIC CHIP	0.033uF	10.00%	16V
C119	1-126-963-11	ELECT	4.7uF	20.00%	50V
C120	1-130-495-00	MYLAR	0.1uF	5%	50V
C121	1-130-495-00	MYLAR	0.1uF	5%	50V
C123	1-126-767-11	ELECT	1000uF	20.00%	16V
C126	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C127	1-162-962-91	CERAMIC CHIP	470PF	10%	50V
C128	1-126-965-91	ELECT	22uF	20.00%	50V
C129	1-126-965-91	ELECT	22uF	20.00%	50V
C132	1-126-963-11	ELECT	4.7uF	20.00%	50V
C133	1-130-491-91	FILM	0.047uF	5%	50V
C134	1-162-966-91	CERAMIC CHIP	0.0022uF	10%	50V
C201	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C202	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C203	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C204	1-104-657-91	ELECT	47uF	20.00%	10V
C206	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C207	1-126-961-11	ELECT	2.2uF	20.00%	50V
C208	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C209	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C210	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C211	1-164-172-11	CERAMIC CHIP	0.0056uF	10.00%	25V
C212	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C213	1-126-957-11	ELECT	0.22uF	20.00%	50V
C214	1-126-959-11	ELECT	0.47uF	20.00%	50V
C215	1-126-963-11	ELECT	4.7uF	20.00%	50V
C216	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C217	1-164-730-11	CERAMIC CHIP	0.0012uF	10.00%	50V
C218	1-164-677-11	CERAMIC CHIP	0.033uF	10.00%	16V
C219	1-126-963-11	ELECT	4.7uF	20.00%	50V
C220	1-130-495-00	MYLAR	0.1uF	5%	50V
C221	1-130-495-00	MYLAR	0.1uF	5%	50V
C223	1-126-767-11	ELECT	1000uF	20.00%	16V
C226	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C227	1-162-962-91	CERAMIC CHIP	470PF	10%	50V
C228	1-126-965-91	ELECT	22uF	20.00%	50V
C229	1-126-965-91	ELECT	22uF	20.00%	50V
C232	1-126-963-11	ELECT	4.7uF	20.00%	50V
C233	1-130-491-91	FILM	0.047uF	5%	50V
C234	1-162-966-91	CERAMIC CHIP	0.0022uF	10%	50V
C301	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C302	1-128-551-11	ELECT	22uF	20.00%	25V
C303	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C304	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C305	1-126-934-11	ELECT	220uF	20.00%	10V
C309	1-126-767-11	ELECT	1000uF	20.00%	16V
C310	1-126-947-11	ELECT	47uF	20.00%	25V
C311	1-126-964-11	ELECT	10uF	20.00%	50V
C312	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C313	1-126-933-11	ELECT	100uF	20.00%	16V
C314	1-136-967-11	MYLAR	0.012uF	5.00%	50V
C315	1-126-947-11	ELECT	47uF	20.00%	25V
C316	1-130-481-00	MYLAR	0.0068uF	5%	50V
C317	1-130-483-00	MYLAR	0.01uF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C318	1-130-483-91	FILM	0.01uF	5%	50V
C319	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C320	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C322	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C323	1-128-548-11	ELECT	4700uF	20.00%	25V
C324	1-126-934-11	ELECT	220uF	20.00%	16V
C326	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C327	1-126-947-11	ELECT	47uF	20.00%	25V
C328	1-126-933-11	ELECT	100uF	20.00%	16V
C329	1-126-933-11	ELECT	100uF	20.00%	16V
C330	1-126-934-11	ELECT	220uF	20.00%	10V
C331	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C332	1-126-933-11	ELECT	100uF	20.00%	16V
C333	1-126-935-11	ELECT	470uF	20.00%	16V
C335	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C336	1-126-965-91	ELECT	22uF	20.00%	50V
C343	1-126-947-11	ELECT	47uF	20.00%	25V
C344	1-126-947-11	ELECT	47uF	20.00%	25V
C345	1-126-933-11	ELECT	100uF	20.00%	16V
C346	1-126-935-11	ELECT	470uF	20.00%	16V
C347	1-164-156-91	CERAMIC CHIP	0.1uF		25V
C348	1-164-156-91	CERAMIC CHIP	0.1uF		25V
C349	1-104-662-91	ELECT	47uF	20%	10V
C350	1-127-884-21	CERAMIC	0.047uF	10%	50V
		< CONNECTOR >			
* CN301	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
CN302	1-784-776-11	CONNECTOR, FFC 15P			
CN303	1-784-781-11	CONNECTOR, FFC 20P			
CN304	1-568-830-11	CONNECTOR, FFC 11P (US, CND, KR)			
CN304	1-784-776-11	CONNECTOR, FFC 15P (AEP, UK)			
CN307	1-564-506-11	PLUG, CONNECTOR 3P			
		< DIODE >			
D301	8-719-991-33	DIODE 1SS133T-77			
D302	8-719-991-33	DIODE 1SS133T-77			
D303	8-719-109-89	DIODE MTZJ-T-77-5.6B			
D304	8-719-109-89	DIODE MTZJ-T-77-5.6B			
D305	8-719-109-85	DIODE MTZJ-T-77-5.1B			
D306	8-719-109-85	DIODE MTZJ-T-77-5.1B			
D310	8-719-109-89	DIODE MTZJ-T-77-5.6B			
D311	8-719-109-89	DIODE MTZJ-T-77-5.6B			
D312	8-719-063-79	DIODE 1N4002B			
D313	8-719-063-79	DIODE 1N4002B			
D317	8-719-991-33	DIODE 1SS133T-77			
D319	8-719-063-79	DIODE 1N4002B			
D320	8-719-063-79	DIODE 1N4002B			
D321	8-719-063-79	DIODE 1N4002B			
		< IC >			
IC302	6-702-895-01	IC BD3881FV			
IC303	6-702-093-01	IC LA4663N			
		< JACK >			
J302	1-536-708-81	TERMINAL BOARD, PUSH (4P) (SPEAKER)			
* J303	1-750-178-31	JACK, PIN 2P (MD)			
		< COIL >			
L101	1-422-009-13	COIL, AIR-CORE			
L102	1-422-009-13	COIL, AIR-CORE			
L201	1-422-009-13	COIL, AIR-CORE			
L202	1-422-009-13	COIL, AIR-CORE			
		< TRANSISTOR >			
Q305	8-729-036-86	TRANSISTOR KTC3203Y-AT			
Q306	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q307	8-729-028-54	TRANSISTOR KTC3205-Y-AT			
Q308	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q309	8-729-054-16	TRANSISTOR KRC402-RTK			
Q310	8-729-028-54	TRANSISTOR KTC3205-Y-AT			
Q311	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q312	8-729-036-86	TRANSISTOR KTC3203Y-AT			
Q313	8-729-036-86	TRANSISTOR KTC3203Y-AT			
Q314	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q315	8-729-054-16	TRANSISTOR KRC402-RTK			
Q317	8-729-028-54	TRANSISTOR KTC3205-Y-AT			
Q319	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q320	8-729-054-16	TRANSISTOR KRC402-RTK			
Q321	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q322	8-729-054-16	TRANSISTOR KRC402-RTK			
Q323	8-729-037-13	TRANSISTOR KTA1271Y-AT			
Q325	8-729-054-16	TRANSISTOR KRC402-RTK			
Q326	8-729-034-50	TRANSISTOR KTA1504			
Q327	8-729-034-50	TRANSISTOR KTA1504			
Q328	8-729-045-62	TRANSISTOR 2SK2158-T2B			
Q329	8-729-045-62	TRANSISTOR 2SK2158-T2B			
Q330	8-729-045-62	TRANSISTOR 2SK2158-T2B			
Q331	8-729-054-33	TRANSISTOR FDS7764A (US, CND, KR)			
Q331	8-729-054-03	TRANSISTOR KRA303-RTK (AEP, UK)			
Q332	8-729-054-33	TRANSISTOR FDS7764A (US, CND, KR)			
Q332	8-729-054-03	TRANSISTOR KRA303-RTK (AEP, UK)			
Q333	8-729-054-16	TRANSISTOR KRC402-RTK			
Q338	8-729-054-16	TRANSISTOR KRC402-RTK			
Q339	8-729-036-86	TRANSISTOR KTC3203Y-AT			
		< RESISTOR >			
R101	1-216-830-91	METAL CHIP	5.6K	5%	1/10W
R102	1-216-840-11	METAL CHIP	39K	5%	1/10W
R103	1-216-817-11	METAL CHIP	470	5%	1/10W
R104	1-216-808-11	METAL CHIP	82	5%	1/10W
R105	1-216-852-91	METAL CHIP	390K	5%	1/10W
R106	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R107	1-216-847-11	METAL CHIP	150K	5%	1/10W
R108	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R109	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R111	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R112	1-216-893-91	METAL	62	1%	0.6W (US, CND, KR)
R112	1-216-839-11	METAL CHIP	33K	5%	1/10W (AEP, UK)
R113	1-216-821-11	METAL CHIP	1K	5%	1/10W
R114	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R115	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R116	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R117	1-216-821-11	METAL CHIP	1K	5%	1/10W
R118	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R119	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R120	1-216-833-11	METAL CHIP	10K	5%	1/10W
R121	1-216-821-11	METAL CHIP	1K	5%	1/10W
R122	1-216-843-11	METAL CHIP	68K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R123	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R124	1-216-837-11	METAL CHIP	22K	5%	1/10W
R125	1-216-837-11	METAL CHIP	22K	5%	1/10W
R126	1-216-837-11	METAL CHIP	22K	5%	1/10W
R128	1-216-821-11	METAL CHIP	1K	5%	1/10W
R129	1-249-385-11	CARBON	2.2	5%	1/6W F
R130	1-249-385-11	CARBON	2.2	5%	1/6W F
R131	1-216-821-11	METAL CHIP	1K	5%	1/10W
R132	1-216-821-11	METAL CHIP	1K	5%	1/10W
R136	1-216-833-11	METAL CHIP	10K	5%	1/10W
R137	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R138	1-249-408-11	CARBON	180	5%	1/4W F
R139	1-249-408-11	CARBON	180	5%	1/4W F
R143	1-216-833-11	METAL CHIP	10K	5%	1/10W
R201	1-216-830-91	METAL CHIP	5.6K	5%	1/10W
R202	1-216-840-11	METAL CHIP	39K	5%	1/10W
R203	1-216-817-11	METAL CHIP	470	5%	1/10W
R204	1-216-808-11	METAL CHIP	82	5%	1/10W
R205	1-216-852-91	METAL CHIP	390K	5%	1/10W
R206	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R207	1-216-847-11	METAL CHIP	150K	5%	1/10W
R208	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R209	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R211	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R212	1-216-893-91	METAL	62	1%	0.6W (US, CND, KR)
R212	1-216-839-11	METAL CHIP	33K	5%	1/10W (AEP, UK)
R213	1-216-821-11	METAL CHIP	1K	5%	1/10W
R214	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R215	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R216	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R217	1-216-821-11	METAL CHIP	1K	5%	1/10W
R218	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R219	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R220	1-216-833-11	METAL CHIP	10K	5%	1/10W
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R222	1-216-843-11	METAL CHIP	68K	5%	1/10W
R223	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R224	1-216-837-11	METAL CHIP	22K	5%	1/10W
R225	1-216-837-11	METAL CHIP	22K	5%	1/10W
R226	1-216-837-11	METAL CHIP	22K	5%	1/10W
R228	1-216-821-11	METAL CHIP	1K	5%	1/10W
R229	1-249-385-11	CARBON	2.2	5%	1/6W F
R230	1-249-385-11	CARBON	2.2	5%	1/6W F
R231	1-216-821-11	METAL CHIP	1K	5%	1/10W
R232	1-216-821-11	METAL CHIP	1K	5%	1/10W
R236	1-216-833-11	METAL CHIP	10K	5%	1/10W
R237	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R238	1-249-408-11	CARBON	180	5%	1/4W F
R239	1-249-408-11	CARBON	180	5%	1/4W F
R243	1-216-833-11	METAL CHIP	10K	5%	1/10W
R301	1-216-833-11	METAL CHIP	10K	5%	1/10W
R302	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R303	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R304	1-216-817-11	METAL CHIP	470	5%	1/10W
R305	1-216-817-11	METAL CHIP	470	5%	1/10W
R306	1-216-833-11	METAL CHIP	10K	5%	1/10W
R309	1-247-775-91	CARBON	4.7	5%	1/4W
R310	1-249-387-11	CARBON	3.3	5%	1/10W F
R311	1-216-837-11	METAL CHIP	22K	5%	1/10W
R312	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R313	1-216-841-11	METAL CHIP	47K	5%	1/10W
R314	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R315	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R316	1-216-817-11	METAL CHIP	470	5%	1/10W
R317	1-216-841-11	METAL CHIP	47K	5%	1/10W
R318	1-216-817-11	METAL CHIP	470	5%	1/10W
R319	1-216-857-11	METAL CHIP	1M	5%	1/10W
R320	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R321	1-216-845-11	METAL CHIP	100K	5%	1/10W
R322	1-216-821-11	METAL CHIP	1K	5%	1/10W
R323	1-216-821-11	METAL CHIP	1K	5%	1/10W
R324	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R325	1-216-845-11	METAL CHIP	100K	5%	1/10W
R326	1-216-845-11	METAL CHIP	100K	5%	1/10W
R327	1-216-833-91	METAL CHIP	10K	5%	1/10W
R328	1-216-821-11	METAL CHIP	1K	5%	1/10W
R329	1-216-821-11	METAL CHIP	1K	5%	1/10W
R330	1-216-841-11	METAL CHIP	47K	5%	1/10W
R331	1-216-841-11	METAL CHIP	47K	5%	1/10W
R332	1-216-821-11	METAL CHIP	1K	5%	1/10W
R336	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R348	1-216-821-11	METAL CHIP	1K	5%	1/10W
R349	1-216-864-11	CONDUCTOR	0		
R350	1-216-833-11	METAL CHIP	10K	5%	1/10W
R351	1-216-833-11	METAL CHIP	10K	5%	1/10W
R352	1-249-413-11	CARBON	470	5%	1/4W F
R354	1-216-833-11	METAL CHIP	10K	5%	1/10W
R355	1-216-845-11	METAL CHIP	100K	5%	1/10W
R356	1-216-841-11	METAL CHIP	47K	5%	1/10W
R357	1-216-841-11	METAL CHIP	47K	5%	1/10W
		< TRANSFORMER >			
T301	1-433-372-31	TRANSFORMER, BIAS OSCILLATION			
**********					
	1-688-188-11	POWER BOARD			
		**********			
	1-533-233-11	FUSE HOLDER			
		< CAPACITOR >			
C905	1-164-097-11	CERAMIC	0.022uF		50V
C906	1-164-097-11	CERAMIC	0.022uF		50V
C907	1-164-097-11	CERAMIC	0.022uF		50V
C908	1-164-097-11	CERAMIC	0.022uF		50V
C909	1-164-097-11	CERAMIC	0.022uF		50V
C910	1-164-097-11	CERAMIC	0.022uF		50V
C911	1-164-097-11	CERAMIC	0.022uF		50V
C912	1-164-097-11	CERAMIC	0.022uF		50V
		< CONNECTOR >			

MAIN POWER REGULATOR

Ref. No.	Part No.	Description			Remarks
* CN901	1-564-509-11	PLUG, CONNECTOR 6P			
* CN902	1-691-756-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D906	8-719-991-33	DIODE 1SS133T-77			
D907	8-719-063-79	DIODE 1N4002B			
D908	8-719-063-79	DIODE 1N4002B			
D909	8-719-063-79	DIODE 1N4002B			
D910	8-719-063-79	DIODE 1N4002B			
D911	8-719-063-79	DIODE 1N4002B			
D912	8-719-063-79	DIODE 1N4002B			
D913	8-719-063-79	DIODE 1N4002B			
D914	8-719-063-79	DIODE 1N4002B			
D916	8-719-902-17	DIODE 1N5401			
D917	8-719-902-17	DIODE 1N5401			
D918	8-719-902-17	DIODE 1N5401			
D919	8-719-902-17	DIODE 1N5401			
D920	8-719-991-33	DIODE 1SS133T-77			
D921	8-719-991-33	DIODE 1SS133T-77			
		< LINE FILTER >			
LF901	1-402-663-11	TRANSFORMER, LINE FILTER (LFT)			
		< RESISTOR >			
R901	1-249-437-11	CARBON	47K	5%	1/4W
R902	1-249-437-11	CARBON	47K	5%	1/4W
⚠R911	1-219-237-51	CARBON	3.3M	5%	1/2W (US, CND)
		< RELAY >			
⚠RY901	1-755-276-11	RELAY, POWER			
		< TRANSFORMER >			
⚠T901	1-443-041-11	TRANSFORMER, POWER (KR)			
⚠T901	1-439-781-11	TRANSFORMER, POWER (US, CND)			
⚠T901	1-439-779-11	TRANSFORMER, POWER (AEP, UK)			
**********					
	1-688-191-11	REGULATOR BOARD			
		**********			
		< IC >			
IC305	8-759-347-18	IC KIA7809PI			
**********					

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
⚠8	1-696-169-12	CORD, POWER (KR)	
⚠8	1-696-169-12	CORD, POWER	
⚠8	1-696-169-12	CORD, POWER (AEP, UK)	
11	1-693-619-11	TUNER (FM/AM) (AEP,UK)	
11	1-693-622-11	TUNER (KR)	
11	1-693-624-11	TUNER (FM/AM) (US,CND)	
65	1-796-351-51	MECHANISM, SINGLE CASSETTE	
106	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
⚠602	8-820-221-01	OPTICAL PICK-UP KSM-213EDP	
S800	1-692-960-11	SWITCH, PUSH (1 KEY) (OPEN)	
⚠T902	1-439-769-11	TRANSFORMER, POWER (KR)	
⚠T902	1-439-778-11	TRANSFORMER, POWER (AEP, UK)	
⚠T902	1-439-780-11	TRANSFORMER, POWER (US, CND)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2003.04	New
1.1	2003.07	Correction of EXPLODED VIEW, 7-4 Optical Pick-up Block. (SPM-03057)
1.2	2003.07	Addition of Korean model. Correction of Part of Ref. No. 11 (US, CND) (SPM-03066)

SS-CEP515

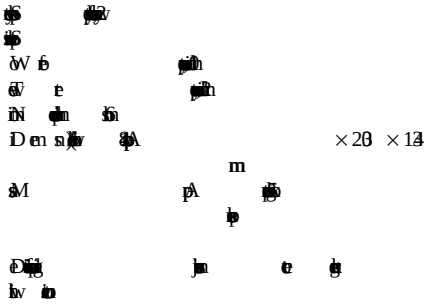
SERVICE MANUAL

Ver 1.1 2003. 07

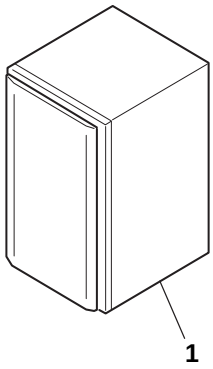
US Model
Canadian Model
AEP Model
UK Model
E Model

- SS-CEP515 is the speaker system in CMT-EP515.

SPECIFICATIONS



EXPLODED VIEWS



Ref. No.	Part No.	Description
1	A-4737-147-A	MAIN UNIT ASSY

SPEAKER SYSTEM

9-877-161-02
2003G16-1
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Home Audio Company
Published by Sony Engineering Corporation

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REVISION HISTORY

Ver.	Date	Description of Revision
0	0 N	
1	0 K	